Weather Company Data - Enhanced Forecast | When Will It Rain - v1

Domain Portfolio: Forecast | Domain: Short-Range Forecast | Usage Classification: **Limited Availability**

Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the “Expires” parameter. Example: “Expires: Fri, 12 Jul 2013 12:00:00 GMT”. The response provides a data element expire_time_gmt, this should be used to expire and remove a record from your system.

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The When Will It Rain Forecast API provides a weather forecast over the next 6 hours based upon data from the Precipitation Events forecast. The Precipitation Events Forecast API provides a weather forecast for precipitation events (rain, snow, sleet, freezing rain) onset and offset times for 28 time steps over the next 7 hours.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- phrase
- phrase_template
- precip_day
- terse_phrase
- terse_phrase_template
- time_zone_abbrev

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2fcstwwir
Request by Geocode (Latitude & Longitude): Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey**		
https://api.weather.com/v1/geocode/34.063/-84.217/forecast/wwir.json?language=en-US&units=e&apiKey=yourApiKey		
Request by Postal Code: Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>		
https://api.weather.com/v1/location/30075:4:US/forecast/wwir.json?language=en-US&units=e&apiKey=yourApiKey		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
class	Data identifier	string		fod_short_range_wwir	N
fcst_valid	The time the forecast is valid. Top of current hour, or bottom of current hour if minute > 30	epoch		1369252800	N
fcst_valid_local	The time the forecast is valid in location local time. Top of current hour, or bottom of current hour if minute > 30	ISO	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
overall_type	A number corresponding to the precipitation type used to create the weather phrase. To be used for display of accompanying simple icon; 0 = none, 1 = rain, 2 = snow, 3 = mix, 4 = thunder	integer	0 - 4	2	N
phrase	The phrase that expresses the next point in time that precipitation of a given type will begin or end. Uses basic time notation that does not include day or time zone abbreviation, but will use 24hr or 12hr clock depending on convention for supplied locale_cd.	string		Expect occasional snow to begin at 8:15pm.	N
phrase_template	The template for the phrase allowing the user to customize the time expression. Uses Mustache-style (http://mustache.github.io/) syntax.	string		Expect occasional snow to begin {{day}} at {{time}}.	N
precip_day	The day of week parameter which includes a trailing space character. Can be NULL if no precipitation begin or end event detected in forecast period.	string		Wednesday	Y
precip_time_12hr	The time parameter expressed in a 12-hour clock convention. Can be NULL if no precipitation begin or end event detected in forecast period.	string		8:15 PM	Y
precip_time_24hr	The time parameter expressed in a 24-hour clock convention. Can be NULL if no precipitation begin or end event detected in forecast period.	string		20:15	Y
precip_time_iso	The time parameter expressed in the ISO standard. Precipitation begin or end time is provided in ISO standard to to allow complete flexibility of time expression per application. Can be NULL if no precipitation begin or end event detected in forecast period.	ISO	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
terse_phrase	The terse phrase that expresses the next point in time that precipitation of a given type will begin or end. Uses basic time notation that does not include day or time zone abbreviation, but will use 24hr or 12hr clock depending on convention for supplied locale_cd.	string		Snow beginning at 8:15 pm.	N
terse_phrase_template	The template version of the terse phrase allowing the user to customize the time expression. Uses Mustache-style (http://mustache.github.io/) syntax.	string		Snow beginning {{day}} at {{time}}.	N
time_zone_abbrv	The time zone abbreviation parameter that can be added as a suffix to the time parameter.	string		EST	N

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1473206131834:-1726618965",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1473206600,
      "status_code": 200
   },
   "forecast": {
      "class": "fod_short_range_wwir",
      "expire_time_gmt": 1473206600,
      "fcst_valid": 1473206400,
      "fcst_valid_local": "2016-09-06T20:00:00-0400",
      "overall_type": 0,
      "phrase": "Expect dry conditions over the next six hours.",
      "terse_phrase": "Dry conditions will continue.",
      "phrase_template": "Expect dry conditions over the next six hours.",
      "terse_phrase_template": "Dry conditions will continue.",
      "precip_day": null,
      "precip_time_24hr": null,
      "precip_time_12hr": null,
      "precip_time_iso": null,
      "time_zone_abbrv": "EDT"
   }
}
```

Vector Aviation TAFs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation TAFs - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** || **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6017/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** || **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.

https://api.weather.com/v2/vector-api/products/6017/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6017 - Aviation TAFs

The source of the data includes WMO Bulletins received over various feeds such as NOAAPort and UKMO. A Terminal Aerodrome Forecast (TAF) is a concise statement of the expected meteorological conditions at an airport during a specified period. TAFs are made available as they are received.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
change_type	Reason for updated TAF ROU - Routine, AMD - Amendment, COR - Correction, CNL - Cancellation, ROUA - Routine Amendment, ROUC - Routine Correction
end_time	ISO-8601 Timestamp of the TAF ending time
icao_site_id	ICAO airport code
id	Unique identifier of the record
raw_data	Raw TAF data
source_id	Provider of the forecast data
start_time	ISO-8601 Timestamp of the TAF starting time
valid_time	ISO-8601 Timestamp of when the TAF was issued

Lifestyle Indices - Leisure Travel - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Leisure Travel index provides indices of outdoor travel / sightseeing conditions due to weather.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Leisure Travel Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/travel/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/travel/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelDaypart3,
https://api.weather.com/v2/indices/travel/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelDaypart5,
https://api.weather.com/v2/indices/travel/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelDaypart7,
https://api.weather.com/v2/indices/travel/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelDaypart10,
https://api.weather.com/v2/indices/travel/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/travel/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/travel/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxTravelDaypart3
Leisure Travel Index - Hourly API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/travel/hourly/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/travel/hourly/24hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelHourly24
https://api.weather.com/v2/indices/travel/hourly/48hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelHourly48

https://api.weather.com/v2/indices/travel/hourly/72hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/travel/hourly/120hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/travel/hourly/240hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/travel/hourly/360hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxTravelHourly72 v2idxTravelHourly120 v2idxTravelHourly240 v2idxTravelHourly360
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/travel/hourly/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/travel/hourly/24hour?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxTravelHourly24

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
Unique to Hourly	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0 Long - Range - Sequential hour number, where 1 = first available hour of forecast, usually <= 1hr from “now”	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
Unique to Daypart	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Leisure Travel Index	leisureTravelCategory	Descriptive text of Leisure Travel Index	[string]		Fair	N	Display As Provided
	leisureTravelIndex	Index of outdoor travel / sightseeing conditions due to weather. 1=Very Poor, 2-3=Poor, 4-5=Fair, 6-7=Good, 8-9=Very Good, 10=Excellent	[integer]	1-10	5	N	Display As Provided

JSON Sample

JSON Sample - Hourly	JSON Sample - Daypart

{
"metadata": {},
"travelIndex1hour": {
"fcstValid": [], {//JSON payload},
"fcstValidLocal": [], {//JSON payload},
"num": [], {//JSON payload},
"dow": [], {//JSON payload},
"dayInd": [], {//JSON payload},
"leisureTravelIndex": [], {//JSON payload},
"leisureTravelCategory": [] {//JSON payload},
}
}
	{
	"metadata": {},
	"travelIndex12hour": { {//JSON payload},
	"fcstValid": [], {//JSON payload},
	"fcstValidLocal": [], {//JSON payload},
	"dayInd": [], {//JSON payload},
	"num": [], {//JSON payload},
	"daypartName": [], {//JSON payload},
	"leisureTravelIndex": [], {//JSON payload},
	"leisureTravelCategory": [] {//JSON payload},
	}
	}

Lifestyle Indices - Breathing/Asthma Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Breathing index indicates weather's influence on the ability to breath for respiratory-sensitive individuals including those who suffer from asthma.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Breathing Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/breathing/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/breathing/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxBreathingDaypart3
https://api.weather.com/v2/indices/breathing/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxBreathingDaypart5
https://api.weather.com/v2/indices/breathing/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxBreathingDaypart7
https://api.weather.com/v2/indices/breathing/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxBreathingDaypart10
https://api.weather.com/v2/indices/breathing/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxBreathingDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/breathing/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/breathing/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxBreathingDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Breathing Index	breathingIndex	Index indicating weather's influence on the ability to breath for respiratory-sensitive individuals 1-2=Very Poor, 3-4=Poor, 5-6=Fair, 7-8=Good, 9-10=Very Good	[integer]	1-10	3	N	Display As Provided
	breathingCategory	Descriptive text of Breathing Index	[string]		Poor	N	Display As Provided

JSON Sample

JSON Sample - Daypart

```
{
"metadata": {},
"breathingIndex12hour": {       {//JSON payload},
"fcstValid": [],                {//JSON payload},
"fcstValidLocal": [],           {//JSON payload},
"dayInd": [],                   {//JSON payload},
"num": [],                      {//JSON payload},
"daypartName": [],              {//JSON payload},
"breathingIndex": [],           {//JSON payload},
"breathingCategory": []         {//JSON payload},
}
}
```

Tropical - Historical Past Track v3
Document Version 1.1

Domain Portfolio: Tropical | Domain: Forecast | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Tropical Historical - Past Track API provides the ability to query the past current positions per storm.
Note: Storm ID may not be unique and this query may return multiple records. Storms will only pull from a designated source when calling by Storm ID.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- latitudeHemisphere
- longitudeHemisphere
- maximumStormSubType
- maximumStormType
- stormDirectionCardinal
- stormType

Atomic Endpoints	Aggregate Product Names
v3/tropical/track/highlights/1year	v3historicalHighlights1year
v3/tropical/track/highlights/3year	v3historicalHighlights3year
v3/tropical/track/highlights/5year	v3historicalHighlights5year
v3/tropical/track/highlights/10year	v3historicalHighlights10year
v3/tropical/track/details	v3historicalTrack

URL Construction

Atomic API URL Examples:
Highlights Request by Basin and Year: Required Parameters: basin, year, format, units, language, nautical, apiKey https://api.weather.com/v3/tropical/track/highlights/{1,3,5,10}year?**basin=<basin>**&**year=<year>**&format=<format>&units=<units>&language=<language>&nautical=<nautical>&**apiKey=<apiKey>**
https://api.weather.com/v3/tropical/track/highlights/3year?**basin=all**&**year=2010**&format=json&units=e&language=en-US&nautical=true&**apiKey=yourApiKey**
Details Request by Basin, Provision and Year: Required Parameters: basin, provision, year, format, units, language, nautical, apiKey

https://api.weather.com/v3/tropical/track/details?**basin=<basin>**&**provision=<provision>**&**year=<year>**&format=<format>&units=<units>&language=<languge>&nautical=<nautical>&**apiKey=<apiKey>**
https://api.weather.com/v3/tropical/track/details?**basin=all**&**provision=default**&**year=2010**&format=json&units=e&language=en-US&nautical=true&**apiKey=yourApiKey**
Details Request by Storm ID and Provision: Required Parameters: stormId, provision, format, units, language, nautical, apiKey https://api.weather.com/v3/tropical/track/details?**stormId=<stormId>**&**provision=<provision>**&format=<format>&units=<units>&language=<languge>&nautical=<nautical>&**apiKey=<apiKey>**
https://api.weather.com/v3/tropical/track/details?**stormId=EP022015**&**provision=default**&format=json&units=e&language=en-US&nautical=true&**apiKey=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
basin	AL, CP, EP, IO, SH, WP, all	Atlantic Ocean, Central Pacific, Eastern Pacific Ocean, Indian Ocean, Southern Hemisphere, Western Pacific, all supported basins
nautical	true or false	nautical = true or false
provision	default, curated, bulletin, all	default = Only the designatedTrack object is populated. The curatedPositions and bulletinPositions objects are null. Data is from the NCDC if it has been loaded otherwise data is from the NHC or JTWC. Used to populate the stormSummary object curated = Only the designatedTrack and the curatedPositions objects are populated. The bulletinPositions object is null. The curatedPositions object will be null if the NCDC data has not been loaded for that year bulletin = Only the designatedTrack and the bulletinPositions object are populated. The curatedPositions object is null. The bulletinPostions object will be null if we do not have NHC or JTWC for that storm (prior to 2011) all = All objects are populated if there is data availabl

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Wind Averaging Period

Governmental organizations providing tropical data use different periods of time when averaging wind values. The United States uses 1 minute values, New Delhi uses 3 minute values and all others use a 10 minute value. This applies to the following fields found in the payload

V3 Past Track : windRadiiNE(1-3), windRadiiSE(1-3), windRadiiSW(1-3) and windRadiiNW(1-3)

Data Elements & Definitions - Tropical - Historical - Past Track - Highlights

Field Name	Description	Type	Range	Sample	Nulls Allowed
highlights		[array]			N
originatingBasin	Basin storm originated in	[string]		CP	N
traversedBasins	Basins the storm visited	[string]		CP	n
seasonYear	Season year	[integer]		2018	N
stormId	Storm Id	[string]		CPO12018	N
stormName	Storm Name	[string]		Andy	N
relatedStormIds	Related storm ids	[string]		N0923542	N
stormNumbers	Storm numbers	[string]		1	Y
maximumStormTypeCode	Maximum Storm Type Code for the storm	[string]		HU	N
maximumStormType	Maximum Storm Type for the storm	[string]		Hurricane	Y
maximumStormSubTypeCode	Maximum Storm Sub Type Code for the storm	[string]		2	N
maximumStormSubType	Maximum Storm Sub Type for the storm	[string]		Category 1 Hurricane	Y
highestMaximumSustainedWind	Highest sustained winds recorded for the storm	[integer]		123	Y
lowestMinimumPressure	Lowest pressure recorded for the storm	[decimal]		970.00	Y

Data Elements & Definitions - Tropical - Historical - Past Track - Details

Field Name	Description	Type	Range	Sample	Nulls Allowed
storms		[array]			N
summaryStormId	IBTrac Storm ID or Bulletin Storm ID	string		2000332N08133	N

summaryStormName	Name assigned by issuing agency. Named storms are in proper case	string		Halola	Y
summaryAlternateStormName	‘Storm-name’ populated in Japanese when data is from JMA. Otherwise will be’null’	string		null	Y
startDateTime	Time of first advisory for the storm	string		2015-01-13T01:00:00-05:00 or Z	N
startDateTimeTimeZoneCode	Time zone code	string		Etc/UTC	N
startDateTimeTimeZoneAbbreviation	Time zone abbreviation	string		UTC	N
originatingBasin	Basin where first advisory for the storm occurred	string		EP	N
lastReportedBasin	Basin where last advisory for the storm occurred	string		EP	N
highestMaximumSustainedWind	Highest recorded maximum sustained winds	integer		129	Y
lowestMinimumPressure	Lowest recorded pressure	decimal		988.00	Y
maximumStormTypeCode	Encoded maximum storm type	string		HU	N
maximumStormType	Maximum storm type	string		Hurricane	N
maximumStormSubTypeCode	Encoded maximum storm sub type	string		1	Y
maximumStormSubType	Maximum storm sub type	string		Category 1 Hurricane	Y
designatedTrack		[array]			Y
stormId	Storm ID provided by source	[string]		2000332N08133	N
stormNumber	Storm number	[string]		1	Y
basin	Basin	[string]		EP	N
source	Issuing Agency	[string]		wmo	N
stormName	Name assigned by issuing agency	[string]		Halola	Y
stormTypeCode	Encoded storm type	[string]	TD=Tropical Depression MD=Monsoon Depression TS=Tropical Storm STS=Severe Tropical Storm TC=Tropical Cyclone L=Extra-Tropical Cyclone MH=Major Hurricane HU=Hurricane HR=Hurricane TY=Typhoon STY=Severe Typhoon ST=Super Typhoon SS=Subtropical Storm PT=Posttropical Cyclone RO=Remnants Of SD=Subtropical Depression DS=Dissipating EX=Extratropical ET=Extrapolated NR=Not Reported	MH	N

			MX=Conflicting Reports From Centers LO=Low WV=Tropical Wave DB=Disturbance XX=Unknown MM=Missing IN=Inland OVERLAND=Overland STC=Subtropical Cyclone D=Depression DD=Deep Depression CS=Cyclonic Storm SCS=Severe Cyclonic Storm SCS(H)=Very Severe Cyclonic Storm VSCS=Very Severe Cyclonic Storm ESCS=Extremely Severe Cyclonic Storm SUCS=Super Cyclone		
stormType	Storm Type	[string]	Tropical Depression Monsoon Depression Tropical Storm Severe Tropical Storm Tropical Cyclone Extra-Tropical Cyclone Major Hurricane Hurricane Hurricane Typhoon Severe Typhoon Super Typhoon Subtropical Storm Posttropical Cyclone Remnants Of Subtropical Depression Dissipating Extratropical Extrapolated Not Reported Conflicting Reports From Centers Low Tropical Wave Disturbance Unknown Missing Inland Just entering into the responsible area of Japan Meteorological Agency Overland	Major Hurricane	N

			Subtropical Cyclone Depression Deep Depression Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclone		
stormSubTypeCode	Encoded storm sub type	[string]		1	Y
stormSubType	Storm sub type	[string]		Category 1 Hurricane	Y
advisoryDateTime	Advisory time	[string]		2015-01-13T10:00:15-08:00 or Z	N
advisoryDateTimeTimeZoneCode	IANA code	[string]		Etc/UTC	N
advisoryDateTimeTimeZoneAbbreviation	Time zone abbreviation	[string]		UTC	N
latitude	Latitude of the storm	[decimal]		42.50	N
latitudeHemisphere	Latitude hemisphere	[string]		N	N
longitude	Longitude of the storm	[decimal]		-59.80	N
longitudeHemisphere	Longitude hemisphere	[string]		W	N
maximumSustainedWind	Maximum sustained winds	[integer]		45	Y
radiusMaximumWinds	the farthest distance from the eye of the storm where the strongest band of winds will be observed	[integer}		45	Y
minimumPressure	Minimum central pressure	[decimal]		29.50	Y
windGust	Wind gusts	[integer]		70	Y
issueOffice	Office issuing bulletin	[string]		KNHC	Y
advisoryNum	Advisory number	[string]		12a	Y
bulletinId	Bulletin identifier	[string]		ljwv8e4rtiejtv8e94jvpkev4t3e4tv3tc	Y
headline	Bulletin headline	[string]		Hurricane Dora makes landfall	Y
stormDirection	Current direction of the storm in degrees	[string]		340	Y
stormDirectionCardinal	Cardinal wind direction	[string]		NNW	Y
stormSpeed	Forward speed of the storm	[integer]		12	Y
windRadiiSpeed1	Wind speed for the associated quadrant	[integer]		34	Y
windRadiiNE1	Distance from the center of the storm in the NE quadrant where windRadiiSpeed1 begins	[integer]		22	Y
windRadiiSE1	Distance from the center of the storm in the SE quadrant where windRadiiSpeed1 begins	[integer]		29	Y
windRadiiSW1	Distance from the center of the storm in the SW quadrant where windRadiiSpeed1 begins	[integer]		33	Y
windRadiiNW1	Distance from the center of the storm in the NW quadrant where windRadiiSpeed1 begins	[integer]		19	Y

windRadiiSpeed2	Wind speed for the associated quadrant	[integer]		50	Y
windRadiiNE2	Distance from the center of the storm in the NE quadrant where windRadiiSpeed2 begins	[integer]		29	Y
windRadiiSE2	Distance from the center of the storm in the SE quadrant where windRadiiSpeed2 begins	[integer]		33	Y
windRadiiSW2	Distance from the center of the storm in the SW quadrant where windRadiiSpeed2 begins	[integer]		45	Y
windRadiiNW2	Distance from the center of the storm in the NW quadrant where windRadiiSpeed2 begins	[integer]		25	Y
windRadiiSpeed3	Wind speed for the associated quadrant	[integer]		64	Y
windRadiiNE3	Distance from the center of the storm in the NE quadrant where windRadiiSpeed3 begins	[integer]		35	Y
windRadiiSE3	Distance from the center of the storm in the SE quadrant where windRadiiSpeed3 begins	[integer]		44	Y
windRadiiSW3	Distance from the center of the storm in the SW quadrant where windRadiiSpeed3 begins	[integer]		55	Y
windRadiiNW3	Distance from the center of the storm in the NW quadrant where windRadiiSpeed3 begins	[integer]		36	Y
windRadiiSpeed4	Wind speed for the associated quadrant	[integer]		null	Y
windRadiiNE4	Distance from the center of the storm in the NE quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiSE4	Distance from the center of the storm in the SE quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiSW4	Distance from the center of the storm in the SW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiNW4	Distance from the center of the storm in the NW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
seaRadiiWaveHeight	Wave height for the associated quadrant	[integer]		12	Y
seaRadiiNE	Distance from the center of the storm in the NE quadrant	[integer]		75	Y
seaRadiiSE	Distance from the center of the storm in the SE quadrant	[integer]		76	Y
seaRadiiSW	Distance from the center of the storm in the SW quadrant	[integer]		80	Y
seaRadiiNW	Distance from the center of the storm in the NW quadrant	[integer]		64	Y
curatedPositions		[array]			Y
stormId	Storm ID provided by source	[string]		2000332N08133	N
stormNumber	Storm number	[string]		1	Y
basin	Basin	[string]		EP	N
source	Issuing Agency	[string]		wmo	N
stormName	Name assigned by issuing agency	[string]		Halola	Y
stormTypeCode	Encoded storm type	[string]		HU	N
stormType	Storm Type	[string]		Hurricane	N
stormSubTypeCode	Encoded storm sub type	[string]		1	Y
stormSubType	Storm sub type	[string]		Category 1 Hurricane	Y
advisoryDateTime	Advisory time	[string]		2015-01-13T10:00:15-08:00 or Z	N
advisoryDateTimeTimeZoneCode	IANA code	[string]		Etc/UTC	N
advisoryDateTimeTimeZoneAbbreviation	Time zone abbreviation	[string]		UTC	N

latitude	Latitude of the storm	[decimal]		42.50	N
latitudeHemisphere	Latitude hemisphere	[string]		N	N
longitude	Longitude of the storm	[decimal]		-59.80	N
longitudeHemisphere	Longitude hemisphere	[string]		W	N
maximumSustainedWind	Maximum sustained winds	[integer]		45	Y
radiusMaximumWinds	the farthest distance from the eye of the storm where the strongest band of winds will be observed	[integer}		45	Y
minimumPressure	Minimum central pressure	[decimal]		29.50	Y
windGust	Wind gusts	[integer]		70	Y
issueOffice	Office issuing bulletin	[string]		KNHC	Y
advisoryNum	Advisory number	[string]		12a	Y
bulletinId	Bulletin identifier	[string]		ljwv8e4rtiejtv8e94jvpkev4t3e4tv3tc	Y
headline	Bulletin headline	[string]		Hurricane Dora makes landfall	Y
stormDirection	Current direction of the storm in degrees	[string]		340	Y
stormDirectionCardinal	Cardinal wind direction	[string]		NNW	Y
stormSpeed	Forward speed of the storm	[integer]		12	Y
windRadiiSpeed1	Wind speed for the associated quadrant	[integer]		34	Y
windRadiiNE1	Distance from the center of the storm in the NE quadrant where windRadiiSpeed1 begins	[integer]		22	Y
windRadiiSE1	Distance from the center of the storm in the SE quadrant where windRadiiSpeed1 begins	[integer]		29	Y
windRadiiSW1	Distance from the center of the storm in the SW quadrant where windRadiiSpeed1 begins	[integer]		33	Y
windRadiiNW1	Distance from the center of the storm in the NW quadrant where windRadiiSpeed1 begins	[integer]		19	Y
windRadiiSpeed2	Wind speed for the associated quadrant	[integer]		50	Y
windRadiiNE2	Distance from the center of the storm in the NE quadrant where windRadiiSpeed2 begins	[integer]		29	Y
windRadiiSE2	Distance from the center of the storm in the SE quadrant where windRadiiSpeed2 begins	[integer]		33	Y
windRadiiSW2	Distance from the center of the storm in the SW quadrant where windRadiiSpeed2 begins	[integer]		45	Y
windRadiiNW2	Distance from the center of the storm in the NW quadrant where windRadiiSpeed2 begins	[integer]		25	Y
windRadiiSpeed3	Wind speed for the associated quadrant	[integer]		64	Y
windRadiiNE3	Distance from the center of the storm in the NE quadrant where windRadiiSpeed3 begins	[integer]		35	Y
windRadiiSE3	Distance from the center of the storm in the SE quadrant where windRadiiSpeed3 begins	[integer]		44	Y
windRadiiSW3	Distance from the center of the storm in the SW quadrant where windRadiiSpeed3 begins	[integer]		55	Y
windRadiiNW3	Distance from the center of the storm in the NW quadrant where windRadiiSpeed3 begins	[integer]		36	Y
windRadiiSpeed4	Wind speed for the associated quadrant	[integer]		null	Y
windRadiiNE4	Distance from the center of the storm in the NE quadrant where windRadiiSpeed4 begins	[integer]		null	Y

windRadiiSE4	Distance from the center of the storm in the SE quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiSW4	Distance from the center of the storm in the SW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiNW4	Distance from the center of the storm in the NW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
seaRadiiWaveHeight	Wave height for the associated quadrant	[integer]		12	Y
seaRadiiNE	Distance from the center of the storm in the NE quadrant	[integer]		75	Y
seaRadiiSE	Distance from the center of the storm in the SE quadrant	[integer]		76	Y
seaRadiiSW	Distance from the center of the storm in the SW quadrant	[integer]		80	Y
seaRadiiNW	Distance from the center of the storm in the NW quadrant	[integer]		64	Y
bulletinPositions		[array]			Y
stormId	Storm ID provided by source	[string]		2000332N08133	N
stormNumber	Storm number	[string]		1	Y
basin	Basin	[string]		EP	N
source	Issuing Agency	[string]		wmo	N
stormName	Name assigned by issuing agency	[string]		Halola	Y
stormTypeCode	Encoded storm type	[string]	STS=Severe Tropical Storm L=Extratropical Cyclone STY=Severe Typhoon NR=Not Reported MX=Conflicting Reports From Centers MM=Missing OVERLAND= Overland STC=Subtropical Cyclone MD=Monsoon Depression D=Depression DD=Deep Depression CS=Cyclonic Storm SCS=Severe Cyclonic Storm VSCS=Very Severe Cyclonic Storm SCS(H)=Very Severe Cyclonic Storm ESCS=Extremely Severe Cyclonic Storm SUCS=Super Cyclone MH=Major Hurricane	MH	N
stormType	Storm Type	[string]	Severe Tropical Storm Extratropical Cyclone Extra-Tropical Low Severe Typhoon Not Reported Conflicting Reports From Centers Missing Just entering into the responsible area of Japan Meteorological Agency	Major Hurricane	N

			Overland Subtropical Cyclone Monsoon Depression Depression Deep Depression Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclone Major Hurricane		
stormSubTypeCode	Encoded storm sub type	[string]		1	Y
stormSubType	Storm sub type	[string]	Note: In EP, CP, and AL, only stormType=HU (Hurricane) has a subType In WP, no stormType has a subType In IO and SH, stormType=TC (Tropical Cyclone) has a subType. If stormType=TC in another basin, it will not have a subType.	Category 1 Hurricane	Y
advisoryDateTime	Advisory time	[string]		2015-01-13T10:00:15-08:00 or Z	N
advisoryDateTimeTimeZoneCode	IANA code	[string]		Etc/UTC	N
advisoryDateTimeTimeZoneAbbreviation	Time zone abbreviation	[string]		UTC	N
latitude	Latitude of the storm	[decimal]		42.50	N
latitudeHemisphere	Latitude hemisphere	[string]		N	N
longitude	Longitude of the storm	[decimal]		-59.80	N
longitudeHemisphere	Longitude hemisphere	[string]		W	N
maximumSustainedWind	Maximum sustained winds	[integer]		45	Y
radiusMaximumWinds	the farthest distance from the eye of the storm where the strongest band of winds will be observed	[integer}		45	Y
minimumPressure	Minimum central pressure	[decimal]		29.50	Y
windGust	Wind gusts	[integer]		70	Y
issueOffice	Office issuing bulletin	[string]		KNHC	Y
advisoryNum	Advisory number	[string]		12a	Y
bulletinId	Bulletin identifier	[string]		ljwv8e4rtiejtv8e94jvpkev4t3e4tv3tc	Y
headline	Bulletin headline	[string]		Hurricane Dora makes landfall	Y
stormDirection	Current direction of the storm in degrees	[string]		340	Y

stormDirectionCardinal	Cardinal wind direction	[string]		NNW	Y
stormSpeed	Forward speed of the storm	[integer]		12	Y
locationName1	Location name	[string]		CAPE HATTERAS NORTH CAROLINA	Y
locationDistance1	Distance from the center of the storm	[integer]		240	Y
locationDirectionCardinal1	Direction of locationName1 from the center of the storm	[string]		N	Y
locationCityName1	Nearest city	[string]		Cape Hatteras	Y
locationAdminDistrictCode1	Nearest state	[string]		NC	Y
locationName2	Location name	[string]		NAGS HEAD NORTH CAROLINA	Y
locationDistance2	Distance from the center of the storm	[integer]		265	Y
locationDirectionCardinal2	Direction of locationName2 from the center of the storm	[string]		N	Y
locationCityName2	Nearest city	[string]		Nags Head	Y
locationAdminDistrictCode2	Nearest state	[string]		NC	Y
windRadiiSpeed1	Wind speed for the associated quadrant	[integer]		34	Y
windRadiiNE1	Distance from the center of the storm in the NE quadrant where windRadiiSpeed1 begins	[integer]		22	Y
windRadiiSE1	Distance from the center of the storm in the SE quadrant where windRadiiSpeed1 begins	[integer]		29	Y
windRadiiSW1	Distance from the center of the storm in the SW quadrant where windRadiiSpeed1 begins	[integer]		33	Y
windRadiiNW1	Distance from the center of the storm in the NW quadrant where windRadiiSpeed1 begins	[integer]		19	Y
windRadiiSpeed2	Wind speed for the associated quadrant	[integer]		50	Y
windRadiiNE2	Distance from the center of the storm in the NE quadrant where windRadiiSpeed2 begins	[integer]		29	Y
windRadiiSE2	Distance from the center of the storm in the SE quadrant where windRadiiSpeed2 begins	[integer]		33	Y
windRadiiSW2	Distance from the center of the storm in the SW quadrant where windRadiiSpeed2 begins	[integer]		45	Y
windRadiiNW2	Distance from the center of the storm in the NW quadrant where windRadiiSpeed2 begins	[integer]		25	Y
windRadiiSpeed3	Wind speed for the associated quadrant	[integer]		64	Y
windRadiiNE3	Distance from the center of the storm in the NE quadrant where windRadiiSpeed3 begins	[integer]		35	Y
windRadiiSE3	Distance from the center of the storm in the SE quadrant where windRadiiSpeed3 begins	[integer]		44	Y
windRadiiSW3	Distance from the center of the storm in the SW quadrant where windRadiiSpeed3 begins	[integer]		55	Y
windRadiiNW3	Distance from the center of the storm in the NW quadrant where windRadiiSpeed3 begins	[integer]		36	Y
windRadiiSpeed4	Wind speed for the associated quadrant	[integer]		null	Y
windRadiiNE4	Distance from the center of the storm in the NE quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiSE4	Distance from the center of the storm in the SE quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiSW4	Distance from the center of the storm in the SW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
windRadiiNW4	Distance from the center of the storm in the NW quadrant where windRadiiSpeed4 begins	[integer]		null	Y
seaRadiiWaveHeight	Wave height for the associated quadrant	[integer]		12	Y

seaRadiiNE	Distance from the center of the storm in the NE quadrant	[integer]		75	Y
seaRadiiSE	Distance from the center of the storm in the SE quadrant	[integer]		76	Y
seaRadiiSW	Distance from the center of the storm in the SW quadrant	[integer]		80	Y
seaRadiiNW	Distance from the center of the storm in the NW quadrant	[integer]		64	Y

JSON Sample- Tropical - Historical - Past Track - Highlights


```
{
highlights:
        {
                originatingBasin:
                [
                        "AL",
                        "AL",
                        "AL",
```

```
        ],
        [
            "AL"
        ],
        [
            "AL",
            "EP",
        ],
        [
            "AL"
        ],
        [
            "EP",
            "AL",
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
            "AL"
        ],
        [
```

```
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
                [
                    "AL"
                ],
            ],
        seasonYear:
        [
                2005,
                2005,
                2005,
```

```
                    "2005192N11318",
                    "2005203N25285",
                    "2005205N19267",
                    "2005215N28291",
                    "2005217N13327",
                    "2005226N13316",
                    "2005235N19266",
                    "2005236N23285",
                    "2005241N14315",
                    "2005245N19315",
                    "2005249N26281",
                    "2005249N28293",
                    "2005261N13306",
                    "2005261N21290",
                    "2005274N12327",
                    "2005275N19274",
                    "2005277N34328",
                    "2005278N27280",
                    "2005281N26303",
                    "2005281N33339",
                    "2005289N18282",
                    "2005296N16293",
                    "2005300N10279",
                    "2005318N13298",
                    "2005324N27312",
                    "2005333N32311",
                    "2005364N24324",
            ],
            stormName:
            [
                    "ARLENE",
                    "BRET",
                    "CINDY",
                    "DENNIS",
                    "EMILY",
                    "FRANKLIN",
                    "GERT",
                    "HARVEY",
                    "IRENE",
                    "NOT_NAMED",
                    "JOSE",
                    "KATRINA",
                    "LEE",
                    "MARIA",
                    "OPHELIA",
                    "NATE",
                    "PHILIPPE",
                    "RITA",
                    "NOT_NAMED",
                    "STAN",
                    "NOT_NAMED",
                    "TAMMY",
                    "NOT_NAMED",
                    "VINCE",
                    "WILMA",
                    "ALPHA",
                    "BETA",
                    "GAMMA",
                    "DELTA",
                    "EPSILON",
                    "ZETA",
            ],
            relatedStormIds:
            [
```

```
[
        "2005160N17276",
        "AL012005",
],
[
        "AL022005",
        "2005180N20265",
],
[
        "AL032005",
        "2005185N18273",
],
[
        "AL042005",
        "2005186N12299",
],
[
        "2005192N11318",
        "AL052005",
],
[
        "2005203N25285",
        "AL062005",
],
[
        "2005205N19267",
        "AL072005",
],
[
        "2005215N28291",
        "AL082005",
],
[
        "2005217N13327",
        "AL092005",
],
[
        "2005226N13316",
        "AL102005",
],
[
        "AL112005",
        "2005235N19266",
],
[
        "AL122005",
        "2005236N23285",
],
[
        "AL132005",
        "2005241N14315",
],
[
        "AL142005",
        "2005245N19315",
],
[
        "AL162005",
        "2005249N26281",
],
[
        "2005249N28293",
        "AL152005",
],
```

```
                [
                        "AL172005",
                        "2005261N13306",
                ],
                [
                        "AL182005",
                        "2005261N21290",
                ],
                [
                        "2005274N12327",
                        "AL192005",
                ],
                [
                        "AL202005",
                        "2005275N19274",
                ],
                [
                        "2005277N34328",
                        "AL212005",
                ],
                [
                        "2005278N27280",
                        "AL222005",
                ],
                [
                        "AL232005",
                        "2005281N26303",
                ],
                [
                        "AL242005",
                        "2005281N33339",
                ],
                [
                        "2005289N18282",
                        "AL252005",
                ],
                [
                        "2005296N16293",
                        "AL262005",
                ],
                [
                        "2005300N10279",
                        "AL272005",
                ],
                [
                        "AL282005",
                        "2005318N13298",
                ],
                [
                        "2005324N27312",
                        "AL292005",
                ],
                [
                        "AL302005",
                        "2005333N32311",
                ],
                [
                        "2005364N24324",
                        "AL312005",
                ],
        ],
        stormNumbers:
        [
                [
```

```
                    "1"
                ],
                [
                    "2"
                ],
                [
                    "3"
                ],
                [
                    "4"
                ],
                [
                    "5"
                ],
                [
                    "6"
                ],
                [
                    "7"
                ],
                [
                    "8"
                ],
                [
                    "9"
                ],
                [
                    "10"
                ],
                [
                    "11"
                ],
                [
                    "12"
                ],
                [
                    "13"
                ],
                [
                    "14"
                ],
                [
                    "16"
                ],
                [
                    "15"
                ],
                [
                    "17"
                ],
                [
                    "18"
                ],
                [
                    "19"
                ],
                [
                    "20"
                ],
                [
                    "21"
                ],
                [
                    "22"
```

```
                ],
                [
                        "23"
                ],
                [
                        "24"
                ],
                [
                        "25"
                ],
                [
                        "26"
                ],
                [
                        "27"
                ],
                [
                        "28"
                ],
                [
                        "29"
                ],
                [
                        "30"
                ],
                [
                        "31"
                ],
        ],
        maximumStormTypeCode:
        [
                "TS",
                "TS",
                "HU",
                "HU",
                "HU",
                "TS",
                "TS",
                "TS",
                "HU",
                "TD",
                "TS",
                "HU",
                "TS",
                "HU",
                "HU",
                "HU",
                "HU",
                "HU",
                "TD",
                "HU",
                "LO",
                "TS",
                "LO",
                "HU",
                "HU",
                "TS",
                "HU",
                "TS",
                "TS",
                "HU",
                "TS",
        ],
        maximumStormType:
```

```
        [
                "Tropical Storm",
                "Tropical Storm",
                "Hurricane",
                "Hurricane",
                "Hurricane",
                "Tropical Storm",
                "Tropical Storm",
                "Tropical Storm",
                "Hurricane",
                "Tropical Depression",
                "Tropical Storm",
                "Hurricane",
                "Tropical Storm",
                "Hurricane",
                "Hurricane",
                "Hurricane",
                "Hurricane",
                "Hurricane",
                "Tropical Depression",
                "Hurricane",
                "Tropical Low",
                "Tropical Storm",
                "Tropical Low",
                "Hurricane",
                "Hurricane",
                "Tropical Storm",
                "Hurricane",
                "Tropical Storm",
                "Tropical Storm",
                "Hurricane",
                "Tropical Storm",
        ],
        maximumStormSubTypeCode:
        [
                null,
                null,
                "1",
                "4",
                "5",
                null,
                null,
                null,
                "2",
                null,
                null,
                "5",
                null,
                "3",
                "1",
                "1",
                "1",
                "5",
                null,
                "1",
                null,
                null,
                null,
                "1",
                "5",
                null,
                "3",
                null,
                null,
```

```
                "1",
                null,
        ],
        maximumStormSubType:
        [
                null,
                null,
                "Category 1 Hurricane",
                "Category 4 Hurricane",
                "Category 5 Hurricane",
                null,
                null,
                null,
                "Category 2 Hurricane",
                null,
                null,
                "Category 5 Hurricane",
                null,
                "Category 3 Hurricane",
                "Category 1 Hurricane",
                "Category 1 Hurricane",
                "Category 1 Hurricane",
                "Category 5 Hurricane",
                null,
                "Category 1 Hurricane",
                null,
                null,
                null,
                "Category 1 Hurricane",
                "Category 5 Hurricane",
                null,
                "Category 3 Hurricane",
                null,
                null,
                null,
                "Category 1 Hurricane",
                null,
        ],
        highestMaximumSustainedWind:
        [
                60,
                35,
                65,
                130,
                140,
                60,
                40,
                55,
                90,
                30,
                50,
                150,
                35,
                100,
                75,
                80,
                70,
                155,
                30,
                70,
                45,
                45,
                40,
                65,
                160,
```

```
                        45,
                        100,
                        45,
                        60,
                        75,
                        55,
                ],
                lowestMinimumPressure:
                [
                        29.21,
                        29.59,
                        29.26,
                        27.46,
                        27.43,
                        29.44,
                        29.68,
                        29.35,
                        28.64,
                        29.77,
                        29.47,
                        26.64,
                        29.71,
                        28.41,
                        28.82,
                        28.91,
                        29.09,
                        26.43,
                        29.71,
                        28.85,
                        29.44,
                        29.56,
                        29.68,
                        29.18,
                        26.05,
                        29.47,
                        28.41,
                        29.59,
                        28.94,
                        28.97,
                        29.35,
                ],
        }
}
```

JSON Sample- Tropical - Historical - Past Track - Details

```
{
        storms:
        [
                {
                        summaryStormId: "2016158N13261",
                        summaryStormName: "NOT_NAMED",
                        summaryAlternateStormName: null,
                        startDateTime: "2016-06-06T06:00:00Z",
                        startDateTimeTimeZoneCode: "Etc/UTC",
                        startDateTimeTimeZoneAbbreviation: "UTC",
                        originatingBasin: "EP",
                        lastReportedBasin: "EP",
                        highestMaximumSustainedWind: 30,
                        lowestMinimumPressure: 29.71,
                        maximumStormTypeCode: "TD",
```

```
maximumStormType: "Tropical Depression",
maximumStormSubTypeCode: null,
maximumStormSubType: null,
designatedTrack:
{
        stormId:
        [
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
                "2016158N13261",
        ],
        stormNumber:
        [
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
                "01",
        ],
        basin:
        [
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
```

```
],
source:
[
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
],
stormName:
[
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
],
stormTypeCode:
[
                "LO",
                "LO",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "LO",
                "LO",
                "LO",
],
stormType:
[
                "Tropical Low",
```

```
                "Tropical Low",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Low",
                "Tropical Low",
                "Tropical Low",
        ],
        stormSubTypeCode:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        stormSubType:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        advisoryDateTime:
        [
                "2016-06-06T06:00:00Z",
                "2016-06-06T09:00:00Z",
                "2016-06-06T12:00:00Z",
                "2016-06-06T15:00:00Z",
                "2016-06-06T18:00:00Z",
```

```
                "2016-06-06T21:00:00Z",
                "2016-06-07T00:00:00Z",
                "2016-06-07T03:00:00Z",
                "2016-06-07T06:00:00Z",
                "2016-06-07T09:00:00Z",
                "2016-06-07T12:00:00Z",
                "2016-06-07T15:00:00Z",
                "2016-06-07T18:00:00Z",
                "2016-06-07T21:00:00Z",
                "2016-06-08T00:00:00Z",
                "2016-06-08T03:00:00Z",
                "2016-06-08T06:00:00Z",
        ],
        advisoryDateTimeTimeZoneCode:
        [
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
        ],
        advisoryDateTimeTimeZoneAbbreviation:
        [
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
        ],
        latitude:
        [
                13,
                13.26,
                13.5,
                13.71,
                13.9,
                14.1,
                14.3,
                14.5,
                14.7,
```

```
                14.9,
                15.1,
                15.31,
                15.5,
                15.67,
                15.8,
                15.91,
                16,
        ],
        latitudeHemisphere:
        [
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
        ],
        longitude:
        [
                -99.2,
                -98.72,
                -98.2,
                -97.64,
                -97.1,
                -96.61,
                -96.2,
                -95.88,
                -95.6,
                -95.28,
                -95,
                -94.81,
                -94.7,
                -94.68,
                -94.7,
                -94.71,
                -94.7,
        ],
        longitudeHemisphere:
        [
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
```

```
                "W",
                "W",
                "W",
                "W",
            ],
            maximumSustainedWind:
            [
                25,
                25,
                25,
                27,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                27,
                25,
                25,
                25,
            ],
            radiusMaximumWinds:
            [
                70,
                70,
                70,
                55,
                40,
                40,
                40,
                40,
                40,
                35,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
            ],
            minimumPressure:
            [
                29.74,
                29.74,
                29.74,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
```

```
    ],
    windGust:
    [
                null,
                null,
                null,
                null,
                40,
                null,
                40,
                null,
                40,
                null,
                40,
                null,
                40,
                null,
                null,
                null,
                null,
    ],
    issueOffice:
    [
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
    ],
    advisoryNum:
    [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
    ],
    bulletinId:
    [
                null,
```

```
                    null,
                    null,
                    null,
```

```
                "ENE",
                "ENE",
                "NE",
                "NE",
                "NE",
                "NE",
                "NE",
                "NNE",
                "N",
                "N",
                "N",
                "N",
            ],
            stormSpeed:
            [
                11,
                11,
                11,
                11,
                11,
                10,
                8,
                7,
                7,
                7,
                6,
                5,
                4,
                3,
                2,
                2,
                2,
            ],
            windRadiiSpeed1:
            [
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
            ],
            windRadiiNE1:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSE1:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSW1:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiNW1:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                null,
                null,
                null,
                null,
            ],
            windRadiiSpeed2:
            [
                34,
                34,
                34,
```

```
],
windRadiiSW2:
[
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
],
windRadiiNW2:
[
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
        null,
],
windRadiiSpeed3:
[
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
        50,
],
windRadiiNE3:
[
        null,
```

```
                    null,
                    null,
                    null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSpeed4:
            [
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
            ],
            windRadiiNE4:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSE4:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiNW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiWaveHeight:
                [
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
```

```
                    12,
                    12,
                    12,
                    12,
                ],
                seaRadiiNE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiSE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiSW:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                ],
                seaRadiiNW:
                [
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                        null,
                ],
        },
        curatedPositions:
        {
                stormId:
                [
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                        "EP012016",
                ],
                stormNumber:
                [
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                        "01",
                ],
```

```
basin:
[
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
],
source:
[
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
                "hurdat_epa",
],
stormName:
[
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
                "NOT_NAMED",
],
stormTypeCode:
[
                "LO",
                "LO",
```

```
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "LO",
                "LO",
                "LO",
            ],
            stormType:
            [
                "Tropical Low",
                "Tropical Low",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Low",
                "Tropical Low",
                "Tropical Low",
            ],
            stormSubTypeCode:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            stormSubType:
            [
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        advisoryDateTime:
        [
                "2016-06-06T06:00:00Z",
                "2016-06-06T09:00:00Z",
                "2016-06-06T12:00:00Z",
                "2016-06-06T15:00:00Z",
                "2016-06-06T18:00:00Z",
                "2016-06-06T21:00:00Z",
                "2016-06-07T00:00:00Z",
                "2016-06-07T03:00:00Z",
                "2016-06-07T06:00:00Z",
                "2016-06-07T09:00:00Z",
                "2016-06-07T12:00:00Z",
                "2016-06-07T15:00:00Z",
                "2016-06-07T18:00:00Z",
                "2016-06-07T21:00:00Z",
                "2016-06-08T00:00:00Z",
                "2016-06-08T03:00:00Z",
                "2016-06-08T06:00:00Z",
        ],
        advisoryDateTimeTimeZoneCode:
        [
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
                "Etc/UTC",
        ],
        advisoryDateTimeTimeZoneAbbreviation:
        [
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
```

```
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
                "UTC",
            ],
            latitude:
            [
                13,
                13.26,
                13.5,
                13.71,
                13.9,
                14.1,
                14.3,
                14.5,
                14.7,
                14.9,
                15.1,
                15.31,
                15.5,
                15.67,
                15.8,
                15.91,
                16,
            ],
            latitudeHemisphere:
            [
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
            ],
            longitude:
            [
                -99.2,
                -98.72,
                -98.2,
                -97.64,
                -97.1,
                -96.61,
                -96.2,
                -95.88,
                -95.6,
                -95.28,
                -95,
                -94.81,
                -94.7,
                -94.68,
```

```
                -94.7,
                -94.71,
                -94.7,
        ],
        longitudeHemisphere:
        [
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
        ],
        maximumSustainedWind:
        [
                25,
                25,
                25,
                27,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                27,
                25,
                25,
                25,
        ],
        radiusMaximumWinds:
        [
                70,
                70,
                70,
                55,
                40,
                40,
                40,
                40,
                40,
                35,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
        ],
```

```
      minimumPressure:
      [
                  29.74,
                  29.74,
                  29.74,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
                  29.71,
      ],
      windGust:
      [
                  null,
                  null,
                  null,
                  null,
                  40,
                  null,
                  40,
                  null,
                  40,
                  null,
                  40,
                  null,
                  40,
                  null,
                  null,
                  null,
                  null,
      ],
      issueOffice:
      [
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
                  "KNHC",
      ],
      advisoryNum:
      [
                  null,
                  null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            bulletinId:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            headline:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            stormDirection:
            [
                "61",
                "63",
                "67",
                "69",
                "69",
                "65",
```

```
                "61",
                "55",
                "55",
                "55",
                "48",
                "36",
                "20",
                "0",
                "349",
                "8",
                "0",
            ],
            stormDirectionCardinal:
            [
                "ENE",
                "ENE",
                "ENE",
                "ENE",
                "ENE",
                "ENE",
                "ENE",
                "NE",
                "NE",
                "NE",
                "NE",
                "NE",
                "NNE",
                "N",
                "N",
                "N",
                "N",
            ],
            stormSpeed:
            [
                11,
                11,
                11,
                11,
                11,
                10,
                8,
                7,
                7,
                7,
                6,
                5,
                4,
                3,
                2,
                2,
                2,
            ],
            windRadiiSpeed1:
            [
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
```

```
                30,
                30,
                30,
                30,
                30,
                30,
                30,
        ],
        windRadiiNE1:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        windRadiiSE1:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        windRadiiSW1:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                null,
                null,
                null,
        ],
        windRadiiNW1:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        windRadiiSpeed2:
        [
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
                34,
        ],
        windRadiiNE2:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
```

```
"windRadiiSE2":
[
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
],
"windRadiiSW2":
[
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
],
"windRadiiNW2":
[
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
],
"windRadiiSpeed3":
[
                50,
                50,
```

```
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
            ],
            windRadiiNE3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSE3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSW3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiNW3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSpeed4:
            [
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
                64,
            ],
            windRadiiNE4:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSE4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiNW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                    null,
                    null,
                    null,
                ],
                seaRadiiWaveHeight:
                [
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                ],
                seaRadiiNE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiSE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
```

```
                    seaRadiiSW:
                    [
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                    ],
                    seaRadiiNW:
                    [
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                                null,
                    ],
          },
          bulletinPositions:
          {
                    stormId:
                    [
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                                "EP012016",
                    ],
                    stormNumber:
                    [
                                null,
                                null,
                                null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            basin:
            [
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
                "EP",
            ],
            source:
            [
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
                "NHC",
            ],
            stormName:
            [
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
                "One-E",
            ],
            stormTypeCode:
            [
                "TD",
                "TD",
                "TD",
```

```
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "TD",
                "RO",
        ],
        stormType:
        [
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Tropical Depression",
                "Remnants Of",
        ],
        stormSubTypeCode:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        stormSubType:
        [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
        ],
        advisoryDateTime:
        [
                "2016-06-06T16:00:00-05:00",
                "2016-06-06T19:00:00-05:00",
                "2016-06-06T22:00:00-05:00",
```

```
                "2016-06-07T01:00:00-05:00",
                "2016-06-07T04:00:00-05:00",
                "2016-06-07T07:00:00-05:00",
                "2016-06-07T10:00:00-05:00",
                "2016-06-07T13:00:00-05:00",
                "2016-06-07T16:00:00-05:00",
                "2016-06-07T19:00:00-05:00",
                "2016-06-07T22:00:00-05:00",
                "2016-06-08T04:00:00-05:00",
                "2016-06-08T10:00:00-05:00",
        ],
        advisoryDateTimeTimeZoneCode:
        [
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
                "America/Chicago",
        ],
        advisoryDateTimeTimeZoneAbbreviation:
        [
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
                "CDT",
        ],
        latitude:
        [
                14.2,
                14.3,
                14.5,
                14.6,
                14.6,
                15.1,
                15.3,
                15.4,
                15.5,
                15.6,
                15.9,
                16.1,
                16.4,
        ],
        latitudeHemisphere:
        [
                "N",
                "N",
                "N",
```

```
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
                "N",
            ],
            longitude:
            [
                -97,
                -96.7,
                -95.9,
                -95.7,
                -95.4,
                -95.1,
                -95,
                -94.8,
                -94.7,
                -94.6,
                -94.6,
                -94.8,
                -94.8,
            ],
            longitudeHemisphere:
            [
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
                "W",
            ],
            maximumSustainedWind:
            [
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                25,
                25,
                20,
            ],
            radiusMaximumWinds:
            [
                null,
                null,
                null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            minimumPressure:
            [
                29.71,
                29.71,
                29.71,
                29.71,
                29.77,
                29.77,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.71,
                29.77,
            ],
            windGust:
            [
                40,
                null,
                40,
                null,
                40,
                null,
                40,
                null,
                40,
                null,
                35,
                35,
                30,
            ],
            issueOffice:
            [
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
                "KNHC",
            ],
            advisoryNum:
            [
                "1",
                "1A",
                "2",
```

```
                "2A",
                "3",
                "3A",
                "4",
                "4A",
                "5",
                "5A",
                "6",
                "7",
                "8",
        ],
        bulletinId:
        [
                "1FE3217D05E249DD907409B756444AD7",
                "90EFEC4F7D094DD789607F817FA753BB",
                "7305E9B2A9ED41F1A7A40A44646B0050",
                "3E5AED77CECC4BFF9EA2B80CB55099E3",
                "CAFE3AF82CC54512B2F667FD647BF81E",
                "685F8BAC1AD049C4BC83D7DF32297157",
                "8E8F45C294704E56A9321A6ED681342A",
                "CC6BB919C95E4197B29EA0A69143CC0C",
                "8B8355348DC04D6980F9B065152A006D",
                "24F95308C593868A870BD5664CD89044",
                "DDBC732171EBD01B6F80D8FAF0B99F1F",
                "692F5FF1DAE3CF1F46432BEFC8A02809",
                "88488F924CEC18AD5E9D86916C551E11",
        ],
        headline:
        [
                [
                        "FIRST TROPICAL DEPRESSION OF THE EAST PACIFIC SEASON FORMS NEAR THE COAST OF SOUTHERN MEXICO"
                ],
                [
                        "DEPRESSION BECOMING LESS ORGANIZED BUT HEAVY RAIN THREAT REMAINS"
                ],
                [
                        "HEAVY RAIN AND FLASH FLOODING POSSIBLE WITH THE DEPRESSION OVER PORTIONS OF EASTERN MEXICO"
                ],
                [
                        "POORLY ORGANIZED DEPRESSION PRODUCING HEAVY RAIN OVER PORTIONS OF SOUTHEASTERN MEXICO"
                ],
                [
                        "DEPRESSION MOVING NORTHEASTWARD TOWARD THE GULF OF TEHUANTEPEC",
                        "HEAVY RAINS CONTINUE OVER THE COAST OF SOUTHERN MEXICO",
                ],
                [
                        "DEPRESSION MOVING EAST-NORTHEASTWARD TOWARD THE GULF OF TEHUANTEPEC",
                        "HEAVY RAINS CONTINUE OVER THE COAST OF SOUTHERN MEXICO",
                ],
                [
                        "DEPRESSION REMAINS DISORGANIZED OVER THE GULF OF TEHUANTEPEC",
                        "HEAVY RAINS CONTINUE OVER THE COAST OF SOUTHERN MEXICO AND WESTERN GUATEMALA",
                ],
                [
                        "DEPRESSION REMAINS DISORGANIZED OVER THE GULF OF TEHUANTEPEC",
                        "HEAVY RAINS CONTINUE OVER THE COAST OF SOUTHERN MEXICO AND WESTERN GUATEMALA",
                ],
                [
                        "THREAT FOR FLASH FLOODS AND MUDSLIDES OVER SOUTHEASTERN MEXICO AND WESTERN GUATEMALA AS DEPRESSION NEARS THE COAST"
                ],
                [
                        "DEPRESSION LOSING ORGANIZATION BUT STILL SOAKING SOUTHEASTERN MEXICO AND WESTERN GUATEMALA"
                ],
                [
```

```
                    "DEPRESSION FADING FAST BUT HEAVY RAINS WILL CONTINUE"
                ],
                [
                    "CENTER OF THE WEAK DEPRESSION JUST SOUTH OF THE COAST OF THE GULF OF TEHUANTEPEC"
                ],
                [
                    "DEPRESSION DISSIPATES ALONG THE SOUTHEASTERN MEXICO COASTLINE"
                ],
            ],
            stormDirection:
            [
                "45",
                "55",
                "45",
                "45",
                "70",
                "70",
                "60",
                "60",
                "50",
                "50",
                "45",
                "360",
                "360",
            ],
            stormDirectionCardinal:
            [
                "NE",
                "NE",
                "NE",
                "NE",
                "ENE",
                "ENE",
                "ENE",
                "ENE",
                "NE",
                "NE",
                "NE",
                "N",
                "N",
            ],
            stormSpeed:
            [
                6,
                6,
                6,
                6,
                6,
                5,
                6,
                5,
                5,
                4,
                3,
                2,
                3,
            ],
            locationName1:
            [
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
```

```
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
                "SALINA CRUZ MEXICO",
            ],
            locationDistance1:
            [
                160,
                143,
                108,
                95,
                95,
                60,
                56,
                56,
                52,
                47,
                39,
                21,
                26,
            ],
            locationDirectionCardinal1:
            [
                "SW",
                "SW",
                "SSW",
                "SSW",
                "S",
                "S",
                "SSE",
                "SSE",
                "SE",
                "SE",
                "ESE",
                "ESE",
                "ENE",
            ],
            locationCityName1:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            locationAdminDistrictCode1:
            [
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                locationName2:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                locationDistance2:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                locationDirectionCardinal2:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                locationCityName2:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            locationAdminDistrictCode2:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSpeed1:
            [
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
                30,
            ],
            windRadiiNE1:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSE1:
            [
                null,
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSW1:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiNW1:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSpeed2:
                [
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                    34,
                ],
                windRadiiNE2:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSE2:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSW2:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiNW2:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSpeed3:
            [
                50,
                50,
                50,
                50,
                50,
```

```
                50,
                50,
                50,
                50,
                50,
                50,
                50,
                50,
            ],
            windRadiiNE3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSE3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiSW3:
            [
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
                null,
            ],
            windRadiiNW3:
            [
                null,
                null,
                null,
                null,
                null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSpeed4:
                [
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                    64,
                ],
                windRadiiNE4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSE4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiSW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                windRadiiNW4:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiWaveHeight:
                [
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                    12,
                ],
                seaRadiiNE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                    null,
                ],
                seaRadiiSE:
                [
                    null,
                    null,
                    null,
                    null,
                    null,
```

```
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                        ],
                                        seaRadiiSW:
                                        [
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                        ],
                                        seaRadiiNW:
                                        [
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                                null,
                                        ],
                                },
                        }
                ]
}
```

Weather Company Data - Intraday Forecast (3-Day, 5-Day, 7-Day, 10-Day) - v1

Domain Portfolio: Forecast | Domain: Intraday Forecasts | | Usage Classification:Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Intraday Forecast API is sourced from the The Weather Company Forecast system. This TWC API returns weather forecasts in 6-hour periods starting current day. The 6-hour periods are Morning, Afternoon, Evening, and Overnight. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Understanding Intraday Forecasts

The Intraday Forecast product breaks down the days forecasts into (four) 6-hour segments for each of the included days.

Intraday Segment	Intraday Segment Name	Reference Description
1	Morning	7 AM - 1 PM Local Apparent Time; the midpoint defined as 10 AM.
2	Afternoon	1 PM - 7 PM Local Apparent Time; the midpoint defined as 4 PM.
3	Evening	7 PM - 1 AM Local Apparent Time; the midpoint defined as 10 PM.
4	Overnight	1 AM - 7 AM Local Apparent Time; the midpoint defined as 4 AM.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- daypart_name
- dow
- phrase32_char
- wdir_cardinal

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

Aggregate Product Names
v2fcstintraday3
v2fcstintraday5
v2fcstintraday7
v2fcstintraday10

URL Construction

Request by Geocode (Latitude & Longitude): Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey**
https://api.weather.com/v1/geocode/34.063/-84.217/forecast/intraday/3day.json?language=en-US&units=e&apiKey=yourApiKey https://api.weather.com/v1/geocode/34.063/-84.217/forecast/intraday/5day.json?language=en-US&units=e&apiKey=yourApiKey https://api.weather.com/v1/geocode/34.063/-84.217/forecast/intraday/7day.json?language=en-US&units=e&apiKey=yourApiKey https://api.weather.com/v1/geocode/34.063/-84.217/forecast/intraday/10day.json?language=en-US&units=e&apiKey=yourApiKey
Request by Postal Code: Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>
https://api.weather.com/v1/location/30339:4:US/forecast/intraday/10day.json?language=en-US&units=e&apiKey=yourApiKey

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
class	Data identifier	string		fod_long_range_intraday	N
clds	6-hour average cloud cover expressed as a percentage.	integer	0 to 100	82	N
daypart_name	The name for the 6-hour period of the day.	string	Morning Afternoon Evening Overnight	Morning	N
dow	Day of week	string		Thursday	N
expire_time_gmt	Expiration time in UNIX seconds	epoch		1369252800	N
fcst_valid	Time forecast is valid in UNIX seconds	epoch		1369306800	N
fcst_valid_local	Time forecast is valid in local apparent time.	ISO		2013-08-06T07:00:00-0400	N
icon_code	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer		26	N
icon_extd	Code representing explicit full set sensible weather. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer		5500	N
num	This data field is the sequential number that identifies each of the forecasted days in the API. They start on day 1, which is the forecast for the current day. Then the forecast for tomorrow uses number 2, then number 3 for the day after tomorrow, and so forth.	Integer	1 - 15	1	N
phrase_12char	6-hour sensible weather phrase	string		Cloudy	N

phrase_22char	6-hour sensible weather phrase	string		Cloudy	N
phrase_32char	6-hour sensible weather phrase Note: The character limit applies to English phrases only. For other languages this phrase may exceed 32 characters.	string		Fog Late	N
pop	Daytime maximum probability of precipitation.	integer		20	N
precip_type	The short text describing the expected type accumulation associated with the Probability of Precipitation (POP) display for the hour.	string	rain,snow, precip	rain	N
qualifier	A qualifier sensible weather extension for the 6-hour period.	string		Winds could occasionally gust over 70 mph.	Y
qualifier_code	6-hour sensible weather qualifier code.	string		Q9015	Y
rh	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	integer	0 to 100	83	N
subphrase_pt1	Part 1 of 3-part daypart sensible weather phrase	string		Cloudy	N
subphrase_pt2	Part 2 of 3-part daypart sensible weather phrase	string		Late	N
subphrase_pt3	Part 3 of 3-part daypart sensible weather phrase	string		Thunder	N
temp	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.	integer	-140 to 140 (F)	68	N
wdir	6-hour average wind direction in magnetic notation.	integer	0 to 359	145	N
wdir_cardinal	6-hour average wind direction in cardinal notation.	string	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	N
wspd	The maximum forecasted 6-hour wind speed. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	integer		5	N

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1471548007907:1671560253",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1471548260,
```

```
    "status_code": 200
  },
  "forecasts": [
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471539600,
      "fcst_valid_local": "2016-08-18T13:00:00-0400",
      "num": 1,
      "temp": 90,
      "pop": 24,
      "icon_extd": 3000,
      "icon_code": 30,
      "dow": "Thursday",
      "daypart_name": "Afternoon",
      "phrase_12char": "P Cloudy",
      "phrase_22char": "Partly Cloudy",
      "phrase_32char": "Partly Cloudy",
      "subphrase_pt1": "Partly",
      "subphrase_pt2": "Cloudy",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 50,
      "wspd": 6,
      "wdir": 274,
      "wdir_cardinal": "W",
      "clds": 62,
      "qualifier_code": null,
      "qualifier": "A stray shower or thunderstorm is possible."
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471561200,
      "fcst_valid_local": "2016-08-18T19:00:00-0400",
      "num": 2,
      "temp": 79,
      "pop": 53,
      "icon_extd": 3809,
      "icon_code": 47,
      "dow": "Thursday",
      "daypart_name": "Evening",
      "phrase_12char": "Sct T-Storms",
      "phrase_22char": "Sct Thunderstorms",
```

```
      "phrase_32char": "Scattered Thunderstorms",
      "subphrase_pt1": "Scattered",
      "subphrase_pt2": "T-Storms",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 77,
      "wspd": 6,
      "wdir": 281,
      "wdir_cardinal": "W",
      "clds": 75,
      "qualifier_code": null,
      "qualifier": null
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471582800,
      "fcst_valid_local": "2016-08-19T01:00:00-0400",
      "num": 3,
      "temp": 74,
      "pop": 15,
      "icon_extd": 2900,
      "icon_code": 29,
      "dow": "Friday",
      "daypart_name": "Overnight",
      "phrase_12char": "P Cloudy",
      "phrase_22char": "Partly Cloudy",
      "phrase_32char": "Partly Cloudy",
      "subphrase_pt1": "Partly",
      "subphrase_pt2": "Cloudy",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 92,
      "wspd": 2,
      "wdir": 291,
      "wdir_cardinal": "WNW",
      "clds": 57,
      "qualifier_code": null,
      "qualifier": "A stray shower or thunderstorm is possible."
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471604400,
```

```
            "fcst_valid_local": "2016-08-19T07:00:00-0400",
            "num": 4,
            "temp": 78,
            "pop": 43,
            "icon_extd": 3800,
            "icon_code": 38,
            "dow": "Friday",
            "daypart_name": "Morning",
            "phrase_12char": "Sct T-Storms",
            "phrase_22char": "Sct Thunderstorms",
            "phrase_32char": "Scattered Thunderstorms",
            "subphrase_pt1": "Scattered",
            "subphrase_pt2": "T-Storms",
            "subphrase_pt3": "",
            "precip_type": "rain",
            "rh": 80,
            "wspd": 4,
            "wdir": 279,
            "wdir_cardinal": "W",
            "clds": 52,
            "qualifier_code": null,
            "qualifier": null
        },
//This API will repeat additional times per response ** Collapsed for presentation purposes
{}, // - Response Repeats for Day 2
{}, // - Response Repeats for Day 3…
    ]
}
```

Lifestyle Indices - Running Weather Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Running Weather Index provides indices of outdoor running conditions due to weather - for short, and long runs.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Running Weather Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/runWeather/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/runWeather/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunDaypart3
https://api.weather.com/v2/indices/runWeather/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunDaypart5
https://api.weather.com/v2/indices/runWeather/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunDaypart7
https://api.weather.com/v2/indices/runWeather/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunDaypart10
https://api.weather.com/v2/indices/runWeather/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/runWeather/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/runWeather/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxRunDaypart3
Running Weather Index - Hourly API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/runWeather/hourly/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/runWeather/hourly/24hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunHourly24
https://api.weather.com/v2/indices/runWeather/hourly/48hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunHourly48

https://api.weather.com/v2/indices/runWeather/hourly/72hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/runWeather/hourly/120hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/runWeather/hourly/240hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/runWeather/hourly/360hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxRunHourly72 v2idxRunHourly120 v2idxRunHourly240 v2idxRunHourly360
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/runWeather/hourly/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/runWeather/hourly/24hour?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxRunHourly24

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
Unique to Hourly	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0 Long - Range - Sequential hour number, where 1 = first available hour of forecast, usually <= 1hr from “now”	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
Unique to Daypart	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Running Weather Index	longRunWeatherCategory	Descriptive text of Long Run Weather Index	[string]		Poor	N	Display As Provided
	longRunWeatherIndex	Index of outdoor running conditions due to weather - for long runs. 1-2=Very Poor, 3-4=Poor, 5-6=Fair, 7-8=Good, 9=Very Good, 10=Excellent	[integer]	1-10	3	N	Display As Provided
	shortRunWeatherCategory	Descriptive text of Short Run Weather Index	[string]		Good	N	Display As Provided
	shortRunWeatherIndex	Index of outdoor running conditions due to weather - for short runs. 1-2=Very Poor, 3-4=Poor, 5-6=Fair, 7-8=Good, 9=Very Good, 10=Excellent	[integer]	1-10	8	N	Display As Provided

JSON Sample

JSON Sample - Hourly	JSON Sample - Daypart

{
"metadata": {},
"runWeatherIndex1hour": {
"fcstValid": [], {//JSON payload},
"fcstValidLocal": [], {//JSON payload},
"num": [], {//JSON payload},
"dow": [], {//JSON payload},
"dayInd": [], {//JSON payload},
"longRunWeatherIndex": [], {//JSON payload},
"longRunWeatherCategory": [], {//JSON payload},
"shortRunWeatherIndex": [], {//JSON payload},
"shortRunWeatherCategory": [] {//JSON payload},
}
}
	{
	"metadata": {},
	"runWeatherIndex12hour": {
	"fcstValid": [], {//JSON payload},
	"fcstValidLocal": [], {//JSON payload},
	"dayInd": [], {//JSON payload},
	"num": [], {//JSON payload},
	"daypartName": [], {//JSON payload},
	"longRunWeatherIndex": [], {//JSON payload},
	"longRunWeatherCategory": [], {//JSON payload},
	"shortRunWeatherIndex": [], {//JSON payload},
	"shortRunWeatherCategory": [] {//JSON payload},
	}
	}

Location Service - Near - v3.0

Domain Portfolio: Utility | Domain: Search | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Location Service - Near API provides the ability to lookup valid Personal Weather Station (PWS) station identifiers (stationId), Airports identifiers to retrieve a set of valid identifiers, Ski Resorts, or METAR Station Observations, and distance information matching the request.

- Airport: The response shall include up to 10 Airports nearest the requested location
- Observation: The response shall include up to 10 Observations for METAR Stations nearest the requested location
- PWS: The response shall include up to 10 Personal Weather Stations nearest the requested location
- Ski: The response shall include up to 10 Ski Resorts nearest the requested location

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3-location-near
Search Airport by Geocode: **Required Parameters: geocode, format, product, apiKey**		
https://api.weather.com/v3/location/near?**geocode=33.74,-84.39**&**product=airport**&format=json&apiKey=**yourApiKey**		
Search Observation by Geocode: **Required Parameters: geocode, format, product, apiKey**		
https://api.weather.com/v3/location/near?**geocode=33.74,-84.39**&**product=observation**&format=json&apiKey=**yourApiKey**		
Search PWS by Geocode: **Required Parameters: geocode, format, product, apiKey**		
https://api.weather.com/v3/location/near?**geocode=33.74,-84.39**&**product=pws**&format=json&apiKey=**yourApiKey**		
Search Ski Resort by Geocode: **Required Parameters: geocode, format, product, apiKey**		
https://api.weather.com/v3/location/near?**geocode=33.74,-84.39**&**product=ski**&format=json&apiKey=**yourApiKey**		

Parameter Definitions

Parameter	Name	Description	Example
API Key	apiKey	The “apiKey” is used for access using the api; usually customer specific.	..v3/location/near?**apiKey=yourApiKey**
Format	format	The format of the response (json)	..v3/location/near?**format=json**
Product	product	The product is the identifier type used in the query. Valid values include; airport, observation, pws, ski	..v3/location/near?**product=airport** ..v3/location/near?**product=observation** ..v3/location/near?**product=pws** ..v3/location/near?**product=ski**
Location Parameter	**Name**	**Description**	**Example**
Geocode	geocode	TWC uses valid latitudes and longitude coordinates to identify locations worldwide. Uses WGS84 geocode coordinate reference system. https://www.w3.org/2003/01/geo/ **33.40,83.19** is the manner in which a latitude and longitude is accepted for the weather APIs	..v3/location/near?**geocode=34.063,-84.217**

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
location	Object for location data	[array]			
latitude	Latitude of the requested location	[decimal]	Any valid latitude value	33.638271,	N
longitude	Longitude of the requested location	[decimal]	Any valid longitude value	-84.429369,	N
distanceKm	Distance from requested location in kilometers	[decimal]		0.4	Y
distanceMi	Distance from requested location in miles	[decimal]		0.25	Y
Fields Unique to PWS					
stationId	The PWS station identifier	[string]		KGAATLAN81	Y
stationName	The station name near the requested location	[string]		Atlanta	N
partnerId	For internal use only and to be disregarded	[string]		null	Y
qcStatus	The indicator to signify whether the station has passed quality control checks: -1=not checked (default value); 0=failed; 1=OK	[string]		1	Y
updateTimeUtc	An epoch time indicating the date of the last update received from the station	[epoch]		1557819905	Y
Fields Unique to Airport					
airportName	The airport names near the requested location	[string]		Hartsfield-Jackson Intl	Y

iataCode	The International Air Transport Association (IATA) airport codes of the requested location	[string]	Any valid IATA code	ATL	Y
icaoCode	The International Civil Aviation Organization (ICAO) airport codes of the requested location	[string]	Any valid ICAO code	KATL	Y
Fields Unique to Ski Resorts					
adminDistrictCode	The internationalized State, Region, District or Province identifier code for 'state' or geopolitical area - level 1 administrative division - codes are ISO 3166-2 compliant	[string]	Any valid state, region, district or province code	GA,	Y
countryCode	ISO Country Code	[string]	Any valid ISO country code	US,	Y
ianaTimeZone	The standard IANA Time Zone for the location requested	[string]	Any valid IANA time zone	America/New_York,	Y
skiId	The ski resort identifier near the requested location	[string]		347	Y
skiName	The ski resort name of the requested location	[string]		Sapphire Valley	Y

JSON Sample

Airport Search


```
{
  "location": {
    "latitude":["33.9152806","33.7791264","33.8756111","34.0131667","33.6366996"]
    "longitude":["-84.5163528","-84.521366","-84.3019722","-84.5970278","-84.427864"]
    "distanceKm":[5.91,13.57,14.68,18.64,28.33]
    "distanceMi":[3.67, 8.43, 9.12, 11.58, 17.6]
    "airportName":["Dobbins Air","Fulton County","Dekalb-Peachtree","Cobb County","Hartsfield-Jackson Intl"]
    "iataCode":["MGE","FTY","PDK","RYY","ATL"]
    "icaoCode":["KMGE","KFTY","KPDK","KRYY","KATL"]
  }
}
```


Observation Search


```
{
 "location": {
   "adminDistrictCode":[null,null,null,null,null]
   "stationName":["Aberdeen/Amory","Columbus AFB","Haleyville","Columbus","Jasper"]
   "countryCode":["US","US","US","US","US"]
   "stationId":["KM40","KCBM","K1M4","KGTR","KJFX"]
   "ianaTimeZone":["America/Chicago","America/Chicago","America/Chicago","America/Chicago","America/Chicago"]
   "obsType":["METAR","METAR","METAR","METAR","METAR"]
   "latitude":[33.867,33.65,34.2833,33.45,33.9]
   "longitude":[-88.483,-88.45,-87.6,-88.5833,-87.317]
   "distanceKm":[36.46,43.36,62.07,67.73,71.34]
   "distanceMi":[22.66,26.94,38.57,42.09,44.33]

  }
}
```

PWS Search


```
{
 "location": {
    "stationName":["Atlanta","Atlanta","Atlanta","Forest Park"],
    "stationId":["KGAATLAN398","KGAATLAN41","KGAATLAN378","KGAFORES2"],
    "latitude":[“33.66058”,”33.68513”,”33.68098”,”33.63761”],
    "longitude":[“-84.46119”,”-84.45192”,”-84.48737”,”-84.35225”],
    "distanceKm":[3.4,5.21,6.71,7.48],
    "distanceMi":[2.11,3.24,4.17,4.65]
    "partnerId":[null,null,null,null],
    "qcStatus":[1,1,-1,-1],
    "updateTimeUtc":[1557811139,1557797749,null,null]
  }
}
```


Ski Search


```
{
  "location": {
     "adminDistrictCode”:["NC","NC","TN"]
     "countryCode”:["US","US","US"]
     "distanceKm”:[202.54,246.66,247.72]
     "distanceMi”:[125.85,153.27,153.92]
     "ianaTimeZone”:["America/New_York","America/New_York","America/New_York"]
     "latitude”:["35.089","35.5621","35.7231"]
     "longitude”:["-83.097","-83.0909","-83.4802"]
     "skiId”:["347","103","303"]
     "skiName”:["Sapphire Valley","Cataloochee Ski Area","Ober Gatlinburg Ski Resort"]
  }
}
```

ealert

Weather Alerts Detail - v3.0
Document Version 1.3.1

Domain Portfolio: Alerts | Domain: Alerts | Usage Classification: Standard

Geography: US, Canada, Japan, Western Europe, Australia, South Korea

Attribution Required: YES

Attribution Requirements: Clients must provide data source attribution on anywhere data is displayed.

The attribution phrase must display: “Issued by <Office Name> - <Office Admin District Code>, <Office Country Code>, <Source>, <Disclaimer>”.

- Example: Issued by National Weather Service - Bismarck, US
- Example: Issued by Central Institute for Meteorology and Geodynamics - Austria, EUMETNET-Meteoalarm, Disclaimer: "Time delays between this website and Meteoalarm.eu are possible. For the most up-to-date information about alert levels as published by the participating National Meteorological Services, please visit Meteoalarm."

Overview

The Weather Alert Details API provides the details for a single requested event for weather watches, warnings, statements and advisories issued by the NWS (National Weather Service), Environment Canada and MeteoAlarm. These weather alerts can provide crucial life-saving information. Weather alerts can be complicated and do not always follow consistent standards, format and rules. The Weather Company (TWC) strives to ensure that the information is consistent from all of the different sources but the content is subject to change whenever there is an update from the authoritative source.

The Weather Alert Details API returns additional details related to Severe Thunderstorms, Tornadoes, Earthquakes, Floods, etc . This API also returns non-weather alerts such as Child Abduction Emergency and Law Enforcement Warnings.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be used (see **The Weather Company Data | API Common Usage Guide)**

- countryName
- disclaimer
- headlineText
- eventDescription
- officeAdminDistrict

NOTE: In order to use this API, user must FIRST do the following:
1) Run **Weather Company Data - Core - v3 - Alerts - Weather Alerts - Headlines**
2) Obtain a ‘**detailKey’** from running the operation above
3) Use the obtained ‘**detailKey’** as the required parameter **‘alertId’** in running this API

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3alertsDetail* (See note at end of document)
Request by Alert ID: **Required Parameters:** alertId, format, language, apiKey https://api.weather.com/v3/alerts/detail?**alertId**=<**alertId**>&format=json&language=en-US&apiKey=**yourApiKey**		
https://api.weather.com/v3/alerts/detail?alertId=c092289d-1282-318a-b0c6-ab4c95ee3c57&format=json&language=en-US&apiKey=**yourApiKey**		

Weather Alert Narrative Text and Language Support

Beyond the translated fields indicated above, language returned is not determined by TWC API but by the nation where alert is located. Language Codes supported for each country appear in the table below:

Country	Language	Language Code Parameter
United States	US English, Mexico Spanish (limited distribution)	en-US, es-MX
Austria	Austrian German, UK English	de-DE, en-GB
Australia	Australian English, US English	en-AU, en-US
Belgium	Dutch, Belgium French, German, UK English	nl-BE ,fr-BE, de-DE, en-GB
Bosnia-Herzegovina	Bosnian, UK English	bs-BA, en-GB
Bulgaria	UK English, Bulgarian	en-GB, bg-BG
Canada	Canadian English, Canadian French	en-CA, fr-CA
Croatia	UK English, Croatian	en-GB, hr-HR
Cyprus	Greek, Turkish	el-GR,tr-TR
Czech Republic	UK English, Czech	en-GB, cs-CZ
Denmark	Danish, UK English	da-DK, en-GB
Estonia	UK English, Estonian, Russian	et-EE, en-GB, ru-RU
Finland	Finnish, Swedish, UK English	fi-FI, sv-FI, en-GB
France	French France, UK English	fr-FR, en-GB
Germany	German, UK English, French France, Spanish Spain	de-DE, en-GB, fr-FR, es-ES
Greece	Greek, UK English	el-GR, en-GB
Hungary	UK English, Hungarian	en-GB hu-HU

Iceland	Icelandic, UK English	is-IS, en-GB
Ireland	UK English	en-GB
Israel	UK English, Hebrew	en-GB, he-IL
Italy	Italian, UK English	it-IT, en-GB
Japan	Japanese	ja-JP
Latvia	Latvian, UK English	lv-LV, en-GB
Lithuania	Lithuanian, UK English	lt-LT, en-GB
Luxembourg	German, France French, UK English	de-DE, fr-FR, en-GB
Macedonia	Macedonian, UK English	mk-MK, en-GB
Malta	UK English	en-GB
Moldova	Romanian	en-GB
Montenegro	UK English	en-GB
Netherlands	Dutch, UK English	nl-NL, en-GB
Norway	Norwegian, UK English	no-NO, en-GB
Poland	UK English, Polish	en-GB, pl-PL
Portugal	Portuguese, UK English	pt-PT, en-GB
Romania	Romanian, UK English	ro-RO, en-GB
Serbia	UK English, Serbian	en-GB, sr-RS
Slovakia	UK English, Slovak	en-GB, sk-SK
Slovenia	Slovenian, UK English	sl-SI, en-GB
South Korea	Korean	ko-KR
Spain	Spain Spanish, UK English	es-ES, en-GB
Sweden	Swedish, UK English	sv-SE, en-GB
Switzerland	UK English	en-GB
United Kingdom	UK English	en-GB

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed

"alertDetail.object"		object			N
adminDistrict	Admin district name	string		Montana	Y
adminDistrictCode	Admin district code	string		MT	Y
areaId	Location code for a location where the event occurs.	string		MTC035	N
areaName	Mixed case location name	string		Glacier	N
areaTypeCode	This identifies type of location.	string	C = county Z = zone CLC=Canada Location	C	N
certainty	Certainty text	string	Observed – Determined to have occurred or to be ongoing Likely - Likely (p > ~50%) Possible - Possible but not likely (p <= ~50%) Unlikely - Not expected to occur (p ~ 0) Unknown - Certainty unknown	Observed	N
certaintyCode	Certainty code	integer	1 - Observed 2 - Likely 3 - Possible 4 - Unlikely 5 - Unknown	1	N
countryCode	country code of the location	string		US	N
countryName	country name	string		UNITED STATES OF AMERICA	N
detailKey	detail record key	string		77128ec9-cebe-46b2-8d72-d1f6860454e7	N
disclaimer	Disclaimer for data	string		null	Y
effectiveTimeLocal	The effective date and time of the information in the alert message.	string	valid date	2017-10-07T12:30:00-05:00	Y
effectiveTimeLocalTimeZone	Time Zone Abbreviation for effective time	string	valid timezone	EDT	Y
eventDescription	Event Description	string		Tornado Warning	N
eventTrackingNumber	Event Tracking Number	string	4 digit number or a checksum	160	N
expireTimeLocal	The expire date and time of the information in the alert message.	string	valid date	2017-10-07T19:30:00-05:00	N
expireTimeLocalTimeZone	Time Zone Abbreviation	string	valid timezone	EDT	N
expireTimeUTC	Expire date and time in UTC	epoch	valid Epoch time	1373914800	N
headlineText	Headline text of an event for the location	string	{event} is in effect {event} until {DOW HH:MM AM/PM TZCODE} {event} from {DOW HH:MM AM/PM TZCODE} until {DOW HH:MM AM/PM TZCODE}	Flood Warning until SAT 12:30PM CDT	N
ianaTimeZone	IANA time code	string	Valid timezone	America/Chicago	Y
identifier	This is the checksum value uniquely identifies a bulletin	string	checksum	a463d8adbd563a981673b1beab2b04994e80078a	N
issueTimeLocal	Alert issuance time	string	valid date	2017-10-07T11:30:00-05:00	N
issueTimeLocalTimeZone	Time zone Abbreviation	string	valid timezone	CDT	N
latitude	centroid latitude of a location where the event occurs.	decimal		48.65	Y
longitude	centroid longitude of a location where event occurs.	decimal		-113.13	Y

messageType	The nature of the alert message	string	New - Initial information Update - Updates existing message Cancel - Cancels the earlier message	New	N
messageTypeCode	The nature of the alert message code	integer	1 - New 2 - Update 3 - Cancel	2	N
officeAdminDistrict	Office Admin District	string		Montana	Y
officeAdminDistrictCode	Issuing Office State Code	string		MT	Y
officeCode	Issuing Office code	string		KTFX	N
officeCountryCode	Issuing Office Country Code	string		US	Y
officeName	Issuing Office Name	string		Great Falls	Y
onsetTimeLocal	The onset date and time of the information in the alert message. (Canada only)	string	valid date	2017-10-07T17:30:00-05:00	Y
onsetTimeLocalTimeZone	Time Zone Abbreviation for onset time	string	valid timezone	EDT	Y
phenomena	Phenomena code of an event	string		TO	N
processTimeUTC	Alert process time in SUN	integer	valid unix time UTC	1475863030000	N
productIdentifier	Product Line Identifier	string	Refer Inbound PIL/Event Tab	TOR	N
severity	Severity of the subject event of the alert message	string	Extreme - Extraordinary threat to life or property Severe - Significant threat to life or property Moderate - Possible threat to life or property Minor – Minimal to no known threat to life or property Unknown - Severity unknown	Severe	N
severityCode	Severity code of the subject event of the alert message	integer	1 - Extreme 2 - Severe 3 - Moderate 4 - Minor 5 - Unknown	1	N
significance	Equated to Type - such as a Watch, Warning or Advisory	string		W	N
source	Originating source of alert	string		NWS	N
synopsis	Brief summary	string		*text too large to display here	Y
urgency	Urgency text	string	Immediate - Responsive action SHOULD be taken immediately Expected - Responsive action SHOULD be taken soon (within next hour) Future - Responsive action SHOULD be taken in the near future Past - Responsive action is no longer required Unknown - Urgency not known	Expected	N
urgencyCode	Urgency code	integer	1 - Immediate 2 - Expected 3 - Future 4 - Past 5 - Unknown	2	N
endTimeLocal	the date and time that a alert is expected to end. It may be null for indefinitely long events (in which case the headline will indicate that the event is “in effect”)	string	Valid date	2021-10-04T16:30:00-04:00	Y

endTimeLocalTimeZone	the time zone for endTimeLocal	string	Valid timezone	EDT	Y
endTimeUTC	the end date and time in UTC	integer	Valid unix time UTC	1633379400	Y
"categories.object"		object			N
category	The category description of the subject event of the alert message	string	Geo - Geophysical (inc. landslide) Met - Meteorological (inc. flood) Safety - General emergency and public safety Security - Law enforcement, military, homeland and local/private security Rescue - Rescue and recovery Fire - Fire suppression and rescue Health - Medical and public health Env - Pollution and other environmental Transport - Public and private transportation Infra - Utility, telecommunication, other non-transport infrastructure CBRNE – Chemical, Biological, Radiological, Nuclear or High-Yield Explosive threat or attack Other - Other events	Met	N
categoryCode	The code denoting the category of the subject event of the alert message	integer	1 - Geo 2 - Met 3 - Safety 4 - Security 5 - Rescue 6 - Fire 7 - Health 8 - Env 9 - Transport 10 - Infra 11 - CBRNE 12 - Other	2	N
"responseTypes.object"		object			N
responseType	Description of action recommended for the target audience	string	Shelter – Take shelter in place or per instruction Evacuate – Relocate as instructed in the instruction Prepare – Make preparations per the instruction Execute – Execute a pre-planned activity identified in instruction Avoid – Avoid the subject event as per the instruction Monitor – Attend to information sources as described in instruction Assess – Evaluate the information in this message. (This value SHOULD NOT be used in public warning applications.) AllClear – The subject event no longer poses a threat or concern and any follow on action is described in <instruction> None – No action recommended	Evacuate	N
responseTypeCode	The code denoting the type of action recommended for the target audience	integer	1 - Shelter 2 - Evacuate 3 - Prepare 4 - Execute 5 - Avoid 6 - Monitor 7 - Assess 8 - AllClear 9 - None	2	N

"flood.object"		object			Y
floodCrestTimeLocal	Flood Crest date time	string	valid date	2017-10-07T21:30:00-05:00	Y
floodCrestTimeLocalTimeZone	Flood crest date time zone abbeviation	string	valid timezone	EDT	Y
floodEndTimeLocal	Flood End date time	string	valid date	2017-10-07T23:30:00-05:00	Y
floodEndTimeLocalTimeZone	Flood end date time zone abbeviation	string	valid timezone	EDT	Y
floodImmediateCause	Flood Immediate Cause description	string	Excessive Rainfall Snowmelt Rain and Snowmelt Dam or Levee Failure Ice Jam Glacier-Dammed Lake Outburst Rain and/or Snowmelt and/or Ice Jam Upstream Flooding plus Storm Surge Upstream Flooding plus Tidal Effects Elevated Upstream Flow plus Tidal Effects Wind and/or Tidal Effects Upstream Dam or Reservoir Release Other Multiple Causes Other Effects Unknown	Excessive Rainfall	Y
floodImmediateCauseCode	Flood Immediate Cause code	string	ER Excessive Rainfall SM Snowmelt RS Rain and Snowmelt DM Dam or Levee Failure IJ Ice Jam GO Glacier-Dammed Lake Outburst IC Rain and/or Snowmelt and/or Ice Jam FS Upstream Flooding plus Storm Surge FT Upstream Flooding plus Tidal Effects ET Elevated Upstream Flow plus Tidal Effects WT Wind and/or Tidal Effects DR Upstream Dam or Reservoir Release MC Other Multiple Causes OT Other Effects UU Unknown	NO	Y
floodLocationId	Flood Location Identifier code	string	Any Valid NWS flood location identifier	SMBM8	Y
floodLocationName	Flood Location Identifier Name	string	Any valid NWS flood location identifier or N/A	Saint Mary River at International boundary	N
floodRecordStatus	Flood Record Status description	string	A record flood is not expected Near record or record flood expected Flood without a period of record to compare For areal flood warnings, areal flash flood products, and flood advisories (point and areal) N/A	Near record or record flood expected	N
floodRecordStatusCode	Flood Record Status code	string	NO A record flood is not expected NR Near record or record flood expected UU Flood without a period of record to compare OO For areal flood warnings, areal flash flood products, and flood advisories (point and areal)	NR	Y
floodSeverity	Flood Severity Description	string	None	1	Y

			N/A Minor Moderate Major Unknown		
floodSeverityCode	Flood Severity Code	string	N None 0 N/A 1 Minor 2 Moderate 3 Major U Unknown	0	Y
floodStartTimeLocal	Flood Start date Time	string	valid date	2017-10-07T20:30:00-05:00	Y
floodStartTimeLocalTimeZone	Flood start date time zone abbreviation	string	valid timezone	EDT	Y
"texts.object"		object			Y
description		string		* text too large to display here	Y
instruction		string		* text too large to display here	Y
languageCode	language for texts	string	See documents for supported languages	en-US	Y
overview		string		* text too large to display here	Y
"polygon.object"	**Deprecated - replaced by geospatialShapes**	object			Y
lat	latitude	decimal		48.65	Y
lon	longitude	decimal		-113.13	Y
"geospatialShapes.object"	GeoJSON shape that can contain multiple polygons or circles for an alert. Currently only select European countries can include multiple polygons.	object			Y
See https://geojson.org/				Shown below	
“supplement.object”		object			Y
Supplement key value	Key value for additional warning information	string	See https://twcapi.co/v3WADSO	tornado	Y
Supplement value	Value for additional warning information	string	See https://twcapi.co/v3WADSO	RADAR INDICATED	Y

JSON Sample


```
{
  "alertDetail": {
    "detailKey": "72ea0b30-d298-304c-b24a-e3cab8838dad",
    "messageTypeCode": 1,
    "messageType": "New",
    "productIdentifier": "IWW",
    "phenomena": "TWA",
    "significance": "S",
    "eventTrackingNumber": "0925",
    "officeCode": "EUSI",
    "officeName": "Meteorological Office - Slovenia",
```

```
  "officeAdminDistrict": null,
  "officeAdminDistrictCode": null,
  "officeCountryCode": "SI",
  "eventDescription": "Potential disruption due to wind",
  "severityCode": 3,
  "severity": "Moderate",
  "categories": [
   {
    "category": "Met",
    "categoryCode": 2
   }
  ],
  "responseTypes": [
   {
    "responseType": "Shelter",
    "responseTypeCode": 1
   }
  ],
  "urgency": "Future",
  "urgencyCode": 3,
  "certainty": "Likely",
  "certaintyCode": 2,
  "effectiveTimeLocal": "2023-09-25T08:51:00+02:00",
  "effectiveTimeLocalTimeZone": "CEST",
  "expireTimeLocal": "2023-09-25T23:59:00+02:00",
  "expireTimeLocalTimeZone": "CEST",
  "expireTimeUTC": 1695679140,
  "onsetTimeLocal": "2023-09-25T06:00:00+02:00",
  "onsetTimeLocalTimeZone": "CEST",
  "flood": null,
  "areaTypeCode": "Z",
  "latitude": 45.78,
  "longitude": 15.09,
  "areaId": "SI010",
  "areaName": "Slovenija - jugovzhod / SE",
  "ianaTimeZone": "Europe/Ljubljana",
  "adminDistrictCode": null,
  "adminDistrict": null,
  "countryCode": "SI",
  "countryName": "SLOVENIA",
  "headlineText": "Potential disruption due to wind from MON 8:51 AM CEST until MON 11:59 PM CEST",
  "source": "EUMETNET - MeteoAlarm",
  "disclaimer": "Time delays between this website and <a href=https://meteoalarm.org/>meteoalarm.org</a> are possible. For the most up-to-date information about alert levels as published by the participating National Meteorological Services, please visit <a href=https://meteoalarm.org/>Meteoalarm</a>.",
```

```
  "issueTimeLocal": "2023-09-25T08:55:22+02:00",
  "issueTimeLocalTimeZone": "CEST",
  "identifier": "56d85bad24b4284db2743fc6b019272c",
  "processTimeUTC": 1695625272,
  "endTimeLocal": "2023-09-25T23:59:00+02:00",
  "endTimeLocalTimeZone": "CEST",
  "endTimeUTC": 1695679140,
  "texts": [
    {
      "languageCode": "en-GB",
      "description": "Maximum wind speed : from 70 to 85 km/h. Wind sways trees and may break branches. It impedes road traffic of certain categories and may hinder movement to some extent. The sea is fairly rough (3).",
      "instruction": "Before the event:\nClose all windows and doors. Stow or fasten anything that could be carried away by the wind. Check the situation of vessels in berths.\n\nDuring the event:\nDoors and windows should be kept closed. When moving in the open, pay attention to possible falling objects. Stop all work at heights. Do not repair damage during the event. We recommend additional caution in traffic, especially in crosswinds and in exposed areas (e.g. bridges, cuttings). Caution is recommended in water sports. Less skilled sailors should not sail out. Swimmers should stay close to the shore.",
      "overview": null
    },
    {
      "languageCode": "sl-SI",
      "description": "Maksimalna hitrost vetra : od 70 do 85 km/h. Veter maje drevesa in lahko že lomi veje. Ovira cestni promet določenih kategorij in lahko že nekoliko otežuje gibanje. Morje je zmerno vzvalovano (3).",
      "instruction": "Vrata in okna naj bodo zaprta. Na prostem se ne zadržujte na potencialno nevarnih mestih. Priporočamo dodatno previdnost v prometu. Priporočamo previdnost na morju.",
      "overview": null
    }
  ],
  "polygon": [
    {
      "lat": 46.038,
      "lon": 14.198
    },
    {
      "lat": 46.013,
      "lon": 14.153
    },
    {
      "lat": 45.926,
      "lon": 14.104
    } # Abridged for display purposes
  ],
  "synopsis": null,
  "supplement": null,
  "geospatialShapes": {
    "type": "FeatureCollection",
    "features": [
```

```
      {
        "type": "Feature",
        "properties": {},
        "geometry": {
          "type": "Polygon",
          "coordinates": [
            [
              [
                14.198,
                46.038
              ],
              [
                14.153,
                46.013
              ],
              [
                14.104,
                45.926
              ] # Abridged for display purposes
            ]
          ]
        }
      }
    ]
  }
}
```

Significance Codes

Code	Description
A	Watch
B	Bulletin
L	Local Alerts
M	Message
O	Outlook
R	Report
S	Statement

W	Warning
Y	Advisory

JMA Significance Codes

Code	Description
Y	Advisory
W	Warning
E	Extreme

Alerts Event, Phenomena, Significance, & Threat Levels - See Weather Alerts - Headlines- v3: https://twcapi.co/v3WAH

*Note: Aggregate Product Name only works for this API if used in conjuction with an API that makes active use of TWC Location Services

Tsunami Zones Exceptions:

Tsunami warnings are issued by **Joint Australian Tsunami Warning Centre (JATWC)** for Australian coastal locations and offshore territories. It also issues warnings for Antarctica. Below are some of the locations for which country code is not Australia for which JATWC issues tsunami warnings.

Islands in Australia:

These have a different ISO code than mainland Australia. It should be noted that when using “Alerts By Country” API and using code as “AU” will not return alerts for these islands.

Zone ID	Zone Name	Zone Type	ISO Country Code	Geocode
CC_TW001	Cocos Island	Tsunami	CC	-12.1131, 96.8830
CX_TW001	Christmas Island	Tsunami	CX	-10.4132, 105.6670
NF_TW001	Norfolk Island	Tsunami	NF	-29.0624, 167.9330
NSW_PT245	Norfolk Island	PointPlaces	NF	-29.0389, 167.9408

Antarctica:

For these locations, Location Master will not resolve the geocode to any location. There are no mappings defined for these geocodes and therefore “Alerts By Geocode” will not return any data for these locations. Alerts will return data for these locations when using “Alerts By Country” and “Alerts By Area”.

Zone ID	Zone Name	Zone Type	ISO Country Code	Geocode
AQ_TW001	Antarctica	Tsunami	AQ	-67.6012, 62.8752
AQ_TW002	Antarctica	Tsunami	AQ	-66.2820, 110.5230
AQ_TW003	Antarctica	Tsunami	AQ	-68.5769, 77.9671

Alert Event, Phenomena, Significance, & Threat Levels

For a listing of of Event, Phenomena, Significance and Threat Levels see the document API - Standard - Weather Company Data - Core - v3 - Alerts - Weather Alerts - Headlines

Location Service - Search - v3.0

Domain Portfolio: Utility | Domain: Search | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Location Service APIs provide the ability to lookup a location name or geocode (latitude and longitude) to retrieve a set of locations matching the request.

The Location Search API provides the ability to pass location search input parameters from users, applications or other systems and retrieve a set of location responses that best align with the query string provided. This API will return a list of up to 10 locations, sorted by priority, based on the query parameters provided.

The Location Search API is most commonly used for typeahead search user interfaces or voice assistant queries where users request a named location to identify its geographic coordinates and other related metadata.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases where translated values exist. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes). The following fields will be translated into the requested language where possible:

address, adminDistrict, city, country, displayName, displayContext, locale, neighborhood, disputedCountries

URL Construction

Request by City Name: **Required Parameters:** query, language, format || **Optional Parameters:** countryCode, adminDistrictCode, locationType, proximity, fuzzyMatch Returns information in an array for the string included in the query= parameter. The optional parameters further refine the search response.	**Aggregate Product Name**
https://api.weather.com/v3/location/search?**query=atlanta**&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v3/location/search?**query=Lincoln Memorial Circle SW**&**locationType=address**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-search

Optional Query Parameters

Parameter Name	Description	Type	Range	Sample
countryCode	Specify the query string results to the provided country code.	string	Any valid ISO 3166 alpha 2 code.	US
adminDistrictCode	Filter the response to return only locations within the admin district code specified.	string	Any valid state code in the United States.	GA
locationType	Specify what type of location should be returned in the request. This determines the level of granularity expected in the response. Multiple location types may be requested as comma separated values in one request.		city, locality, neighborhood, state, address, poi, pws, country, postal, locale (includes district, city, locality,	city,locality,neighborhood

	Note: it is recommended to limit the types requested for best results See more details in the Location Types section.		postal, and neighborhood), locid (not actively supported)	
proximity	Specify whether the search results should be biased to return results closer to the latitude,longitude location provided.	geocode	Any valid latitude longitude pair.	33.43,-84.32
fuzzyMatch	Specify whether the database should attempt approximate and/or exact matching to the query string provided in the request. true = attempt approximate and exact matching false = attempt exact matching only Note: requests without this query parameter default the value to 'true'	boolean	true or false	true

Location Types

Types	Description
country	Features that have been given a designated country code under ISO 3166-1.
state	Top-level sub-national administrative features. 'region' is a comparable type as 'state'.
district	Features that are smaller than states/regions but larger than cities.
city	Features generally recognized as cities, villages, municipalities, etc. Typically locations used in postal addressing. Most commonly used for end-user location presentation.
locality	Official sub-city features used in postal addressing or commonly known to local residents.
neighborhood	Colloquial sub-city features which often lack official administrative status and lack agreed-upon boundaries.
locale	A location type sub-grouping combining district, city, locality, postal, and neighborhood features. This type has been made obsolete by the ability to request multiple location types via a comma separated list.
postal	Postal codes used in country-specific national addressing systems.
address	Individual residential or business addresses.
airport	Valid, active airports. Curated internally by The Weather Company.
pws	Valid, active Personal Weather Stations. Curated internally by The Weather Company.

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
location	Object for location data	object			
address	Locale level location detail.	[string]		Atlanta, Georgia, United States	Y
adminDistrict	The internationalized State, Region, District or Province identifier for 'state' or geopolitical area. - level 1 administrative division.	[string]	Any valid state, region, district or province name.	Georgia,	Y

adminDistrictCode	The identifier code for ‘state’ or geopolitical area. - level 1 administrative division.	[string]	US states only.	GA,	Y
city	Full name of location City	string	Any valid city name.	Atlanta,	Y
country	Full name of location Country	[string]	Any valid country name.	United States,	Y
countryCode	ISO Country Code	[string]	Any valid ISO country code.	US,	Y
displayName	The common display name for a location.	[string]	Any valid location display name.	Atlanta	Y
displayContext	The recommended location context to include with the displayName. This is a recommendation from TWC and is subject to change.	[string]	Any free form string	GA, United States	Y
disputedArea	Point falls in an area with political sensitivity.	[boolean]	true, false	false	Y
disputedCountries	List of countries claiming territory in the provided disputedArea. Note: Currently only available for disputedAreas with India, Israel, South Korea, Taiwan	[string]	Any valid country name.	“United States”,”Canada”	Y
disputedCountryCodes	List of ISO country codes representing the disputedCountries.	[string]	Any valid ISO country code.	“US”,”CA”	Y
disputedCustomers	Customer identifier for custom logic pertaining to areas with political sensitivity.	[array]	Any valid internal code.	[“ABC”],[]	Y
disputedShowCountry	Customer designation for display of country names.	[boolean]	true, false	false,true	Y
ianaTimeZone	The standard IANA Time Zone for the location requested.	[string]	Any valid IANA time zone.	America/New_York,	Y
icaoCode	4-digit airport code.	[string]	Any valid icaoCode	KATL	Y
iataCode	3-digit airport code.	[string]	Any valid iataCode	ATL	Y
latitude	Center latitude coordinate of the requested location.	[decimal]	Any valid latitude value.	33.638271,	N
locationCategory	A sub-type of the 'type' field that describes a more specific grouping for the location record.	[string]	Any valid locationCategory	national park	Y
locId	Legacy TWC location identifier corresponding to a unique location record. This location type is provided to ensure compatibility with legacy queries.	[string]	Any valid locId	USWY0183:1:US	Y
longitude	Center longitude coordinate of the requested location.	[decimal]	Any valid longitude value.	-84.429369,	N
neighborhood	The recognized Neighborhood name of the requested location.	[string]	Any valid neighborhood name.	Eagan Park,	Y
postalCode	The Postal Code of the requested location.	[string]	Any valid postal code.	30337,	Y
postalKey	Postal Key is a composite location identifier key of <Postal Code>:<Country Code>	[string]	Any valid postal key value.	30337:US,	Y
placeId	A unique place identifier	[string]	Unique Place Identifier	25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd	N
pwsId	Personal Weather Station identifier	[string]	Any valid pwsId	KTXSANMA13	Y

type	Geospatial definition for the location record. (location type).	[string]	Any valid type	city, address	N
locale	Object for additional city & sub-city locale information.	[array]			
locale1	City or Sub-City locale information - depending on country. Broadest area local. (district)	string	Any valid city or sub-city locale		Y
locale2	City or Sub-City locale information - depending on country. 1 level more granular than ‘locale1’ (city)	string	Any valid city or sub-city locale		Y
locale3	City or Sub-City locale information - depending on country. 1 level more granular than ‘locale2’ (locality)	string	Any valid city or sub-city locale		Y
locale4	City or Sub-City locale information - depending on country. Smallest area local. (neighborhood)	string	Any valid city or sub-city locale		Y

JSON Sample - Location Service - Search


```
// Response Collapsed for Presentation Purposes
{
  "location": {
    "address": [
      "Manhatten, Florida, United States"
    ],
    "adminDistrict": [
      "Florida"
    ],
    "adminDistrictCode": [
      "FL"
    ],
    "city": [
      "Astor"
    ],
    "country": [
      "United States"
    ],
    "countryCode": [
      "US"
    ],
    "displayName": [
      "Manhatten"
    ],
    "displayContext": [
      "Astor, United States"
    ],
    "ianaTimeZone": [
      "America/New_York"
    ],
    "latitude": [
      29.139
    ],
```

```
"locale": [
  {
    "locale1": "Lake County",
    "locale2": "Astor",
    "locale3": "Manhatten",
    "locale4": null
  }
],
"longitude": [
  -81.516
],
"neighborhood": [
  null
],
"placeId": [
  "46a3eae0e75cf5cf212c6362d55459051b62d4a3276a08e00a05e559ba722bb2"
],
"postalCode": [
  "32102"
],
"postalKey": [
  "32102:US"
],
"disputedArea": [
  false
],
"disputedCountries": [
  null
],
"disputedCountryCodes": [
  null
],
"disputedCustomers": [
  null
],
"disputedShowCountry": [
  [
    false
  ]
],
"iataCode": [
  "SFB"
],
"icaoCode": [
  "KSFB"
],
"locId": [
  "USFL0018:1:US"
```

```
    ],
    "locationCategory": [
      null
    ],
    "pwsId": [
      "KFLASTOR13"
    ],
    "type": [
      "locality"
    ]
  }
}
```

Location Service - Boundary - v3.0

Domain Portfolio: Utility | Domain: Search | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Location Service - Boundary API looks up the requested key in the requested product and returns the polygonal geometry as a JSON document. Data returned for all product types will be in the form of a list of boundary coordinates. For this API JSON returned will always be GeoJSON.

Note: Please see the field "product" in the response to validate that the call has been properly made for the intended boundary (county, pollen, postalKey, zone).

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see The Weather Company Data | API Common Usage Guide.

URL Construction	Aggregate Product Name	v3-location-boundary
Request by Geocode: **Required Parameters:** geocode, type, product, format https://api.weather.com/v3/location/boundary?**geocode=<geocode>**&**product=<product>**&**format=<format>**&**apiKey=<apiKey>**		
https://api.weather.com/v3/location/boundary?**geocode=33.33,-83.22**&**product=adminDistrict1**&**format=json**&**apiKey=yourApiKey**		
Request by IATA Code: **Required Parameters:** iataCode, type, product, format https://api.weather.com/v3/location/boundary?**iataCode=<iataCode>**&**product=<product>**&**format=<format>**&**apiKey=<apiKey>**		
https://api.weather.com/v3/location/boundary?**iataCode=FCO**&**product=adminDistrict1**&**format=json**&**apiKey=yourApiKey**		
Request by ICAO Code: **Required Parameters:** icaoCode, type, product, format https://api.weather.com/v3/location/boundary?**icaoCode=<icaoCode>**&**product=<product>**&**format=<format>**&**apiKey=<apiKey>**		
https://api.weather.com/v3/location/boundary?**icaoCode=LIRF**&**product=adminDistrict1**&**format=json**&**apiKey=yourApiKey**		
Request by Place ID: **Required Parameters:** placeid, type, product, format https://api.weather.com/v3/location/boundary?**placeid=<placeid>**&**product=<product>**&**format=<format>**&**apiKey=<apiKey>**		
https://api.weather.com/v3/location/boundary?**placeid=25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd**&**product=adminDistrict1**&**format=json**&**apiKey=yourApiKey**		
Request by Postal Key: **Required Parameters:** postalKey, type, product, format https://api.weather.com/v3/location/boundary?**postalKey=<postalKey>**&**product=<product>**&**format=<format>**&**apiKey=<apiKey>**		
https://api.weather.com/v3/location/boundary?**postalKey=98101:US**&**product=adminDistrict1**&**format=json**&**apiKey=yourApiKey**		

Valid Parameters

Parameter Name	Valid Parameter Values
type	countyId, iataCode, icaoCode, postalKey, zoneId, placeId
product	county, pollen, postalKey, zone

Parameter: type (Location type identifier)	
Valid Parameter Value	Description
countyId	Governmental assigned county identifier
iataCode	The International Air Transport Association (IATA) airport codes of the requested location.
icaoCode	The International Civil Aviation Organization (ICAO) airport codes of the requested location.
placeId	A proprietary TWC unique place identifier.
postalKey	Postal Key is a composite location identifier key of <Postal Code>:<Country Code>
zoneId	Government assigned zone identifier.
Parameter: product	
Valid Parameter Value	Description
county	County name of requested location.
pollen	Boundary of area included for pollen observations.
postalKey	Postal Key is a composite Postal Code location identifier key of <Postal Code>:<Country Code>
zone	Governmental assigned zone.

Valid Parameter Definitions

Parameter	Name	Description	Example
API Key	apiKey	The “apiKey” is used for access using the api; usually customer specific.	..v3/<product>?**apiKey=yourApiKey**
Format	format	The format of the response (json)	..v3/<product>?**format=json**
Product	product	The product is the identifier type used in the query. Valid values include; airport, pws, ski.	..v3/<product>?**product=adminDistrict1** ..v3/<product>?**product=almanac** ..v3/<product>?**product=zone**
Location Parameter	**Name**	**Description**	**Example**
Geocode	geocode	TWC uses valid latitudes and longitude coordinates to identify locations worldwide. Uses WGS84 geocode coordinate reference system. https://www.w3.org/2003/01/geo/ **33.40,83.19** is the manner in which a latitude and longitude is accepted for the weather APIs.	..v3/<product>?**geocode=34.063,-84.217**
IATA Code	iataCode	IATA Code = 3 character International Air Transport Association airport codes IATA (International Air Transport Association) is a trade association that focuses on making air traffic businesses safe, secure, reliable and efficient.	..v3/<product>?**iataCode=FCO**
ICAO Code	icaoCode	ICAO Code = 4 character International Civil Aviation Organization airport codes ICAO (International Civil Aviation Organization) is a UN-body which focuses on international harmonization of civil aviation regulations.	..v3/<product>?**icaoCode=LIRF**
Postal Key	postalKey	Postal Key is a composite location identifier key of <Postal Code>:<Country Code> **<Postal Code>:<Country Code>**	..v3/<product>?**postalKey=30339:US** ..v3/<product>?**postalKey=75003:FR** ..v3/<product>?**postalKey=75003:EE**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
type		[array]			N
features		[array]			N
geometry		[array]			N
type	Describes the type of coordinates returned in the geometry: object. countyId, geocode, iataCode, icaoCode, locId, postalKey, ski, zone, zoneId	string		geocode	N
coordinates	Array of GeoJSON coordinates ordered as: (longitude, latitude) which defines the polygon geometry. The returned coordinates will represent the boundary of the requested ‘type’ (See list above).	[array]			N
properties		[array]			N
product	Requested product type identifier. airportName, alerts, city, locality, location, near, products, zoneId	string		alerts	N

key	Product key. For The Weather Company internal usage only.	string			N

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
    type: "FeatureCollection",
    features: [
        {
            type: "Feature",
            geometry: {
                coordinates: [
                    [
                        [
                            -122.459774,
                            47.672418
                        ],
                        [
                            -122.459737,
                            47.67212
                        ],
                        [
                            -122.45962,
                            47.671118
                        ],
                        [
                            -122.370464,
                            47.506398
                        ],
                        [
                            -122.459774,
                            47.672418
                        ]
                    ]
                ],
                type: "Polygon"
            },
            properties: {
                product: "adminDistrict3",
                key: "612255"
            }
        }
    ]
}
```

Weather Company Data | Weather Imagery - Marine - Image TileServer - v3.0

Domain Portfolio: Weather Imagery | Domain: Graphics - Tile | Usage Classification: Standard | API Name: Marine - Image TileServer - v3.0

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Marine - Image Tile Server API features a set of tile-based products utilizing marine forecast data from the Global Forecast System (GFS) forecast model produced by the National Centers for Environmental Prediction (NCEP). It provides the ability to request tiles of varying resolution up to the data's nativere resolution of ¼ degree (~27.5 km). The API provides a total of 7 days worth of data, delivering 3-hour windows across a span of 7 days with a new set of forecasts generated every 6 hours (00z, 06z, 12z, 18z). The Image Tile Server product provides access to mapping layers pre-rendered with appropriate palettes, ready to be applied to your base map. Layers are served as precut 256x256 png image files for interactive maps and other data visualization, addressed according to a XYZ tile address schema.

The process of identifying available layer data and corresponding layer tiles requires a 3-step process.

1. Get Inventory Series List which returns the valid timeslice and metadata for each tile layer.
2. Use the appropriate valid timeslice (ts & fts) as input to the timeslice parameters, and base map tile address as input into the XYZ parameter of the layer tile request.
3. Get specified Layer Tiles using the data from the Inventory Series response as input into the 'ts' and 'fts' parameters.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Update Frequency

In the Inventory Series each available layer includes a time slice (ts); The time slice (ts) is an Epoch formatted time stamp. This timestamp is used as input into the atomic layer api request for the available layers (with the given timestamp). Each layer timestamp is updated on a frequency dependent on the layer type (Marine). A new Inventory Series request should be made at correlating intervals to the Layer type used in the client application.

For example: if the client application is using Marine layers, then the Inventory Series API should be made in at least 30 minute intervals.

Layer Type	Update Frequency
GFS Global Wave Model Layers	6 Hours (00z, 06z, 12z, 18z)

URL Construction

Atomic API URL Examples:
Inventory Series List: Required Parameters: apiKey **Optional Parameters:** cb, filter https://api.weather.com/v3/TileServer/series/productSet/marine?apiKey=**yourApiKey**
https://api.weather.com/v3/TileServer/**series/productSet/marine**?apiKey=**yourApiKey**

Optional **cb** parameter can be added (optional) if a jsonp callback is required. Get Inventory Series List with optional cb parameter:
https://api.weather.com/v3/TileServer/**series/productSet/marine**?**cb=padding_wrapper**&apiKey=**yourApiKey**

Optional **filter** parameter can be added (optional) to filter results on a specific product:
https://api.weather.com/v3/TileServer/**series/productSet/marine**?**filter=primaryWaveDirection**&apiKey=**yourApiKey**

Forecast Layer: Required Parameters: ts, fts, X:Y:Z, apiKey
https://api.weather.com/v3/TileServer/tile/<**layer_name**>?ts=<**ts**>&fts=<**fts**>&xyz=<**X:Y:Z**>&apiKey=**yourApiKey**

https://api.weather.com/v3/TileServer/tile/**significantHeightofSwellWaves**?ts=**1428948600**&fts=**1428949000**&xyz=**0:0:1**&apiKey=**yourApiKey**

Layer Name	URL Example
Inventory Series	https://api.weather.com/v3/TileServer/**series/productSet/marine**?apiKey=**yourApiKey**
GFS Global Wave Model Layers	
Forecast Layer - Significant height of combined wind waves and swell	https://api.weather.com/v3/TileServer/tile/**significantHeightofCombinedWindWavesAndSwell**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary wave direction at surface	https://api.weather.com/v3/TileServer/tile/**primaryWaveDirection**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary wave mean period at surface	https://api.weather.com/v3/TileServer/tile/**primaryWavePeriod**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Significant height of primary swell waves	https://api.weather.com/v3/TileServer/tile/**significantHeightofSwellWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary swell direction	https://api.weather.com/v3/TileServer/tile/**directionofSwellWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary swell mean period at surface	https://api.weather.com/v3/TileServer/tile/**periodofSwellWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Significant height of primary wind waves at surface	https://api.weather.com/v3/TileServer/tile/**significantHeightofWindWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary wind waves direction at surface	https://api.weather.com/v3/TileServer/tile/**directionofWindWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Primary wind waves mean period at surface	https://api.weather.com/v3/TileServer/tile/**periodofWindWaves**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Ten-meter wind direction	https://api.weather.com/v3/TileServer/tile/**marineWindDirection**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Ten-meter wind speed at specified height level above ground	https://api.weather.com/v3/TileServer/tile/**marineWindspeed**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**

NOTE: Products make use of a land/sea mask to exclude data over bodies of land.

Retrieving Tiles:

Request a 256x256 image tile or UTFGrid for a given layer. The XYZ parameters must be integer coordinates describing the tile position according to the XYZ tiling scheme. Once the client has parsed the series list and determined what layer they wish to display, they then need to request the appropriate tiles for their base map viewport. If the viewport contains tile addresses outside of this window, no call is needed as the tile will be empty. Clients will use the data returned in the Inventory Series response as input into the layer tile request via a series of calls, providing the layer, timestamp, and the X:Y:Z tile address.

Data Elements & Definitions

Field Name	Description	Type	Sample
Inventory Series			

seriesInfo	The seriesInfo describes the available layers and the relevant information in the response to make the secondary call for the actual tiles and include:
	• layer name: e.g. “marineWindspeed”
	• native zoom level: e.g. “nativeZoom”:6,
	• max zoom level: e.g. “maxZoom”:11,
	• bounding box defining opposite corners of the available region
	• series is time slice data required for secondary call for layer imagery
		object	{
			"seriesInfo": {
			"marineWindspeed": {},
			"marineWindDirection":{},
			}
			}

nativeZoom	The native zoom level is the default zoom level for the corresponding image.	integer	6
maxZoom	The max zoom level is the maximum zoom level available for the corresponding image.	integer	11

bb	The bounding box (bb) defines the top left tile (tl) and bottom right (br) tile of the bounding box using the geocode locations defined by latitude (lat) and longitude (lng) tile address scheme. The bb (bounding box for valid tile addresses, defined by opposing geocodes) & Equates to Layer Tile Input - Valid X:Y:Z addresses within the bounding box, defined by two geocodes.
	tl : Top Left Corner — lat: top left latitude; lng: top left longitude
	br: Bottom Right Corner — lat: bottom right latitude; lng: bottom right longitude
	Base Map tile address: e.g.
	• Google = XYZ scheme
	• Mapbox = XYZ scheme
	• Bing = Quadkey scheme
		decimal	"bb": {
			"tl": {
			"lat": "-180.05",
			"lng": "90.05"
			},
			"br": {
			"lat": "180.05",
			"lng": "-90.05"
			}
			},

tl	The response which defines the top left tile address defining the bounding box of the layer, tile addresses falling outside the bounding box will always be empty.	decimal	"lat": "-180.05", "lng": "90.05"
br	The response which defines the bottom right tile address defining the bounding box of the layer, tile addresses falling outside the bounding box will always be empty.	decimal	"lat": "180.05", "lng": "-90.05"
series	The series provides the relevant details required to pull the tiles associated with a layer, with the details contained in an array of values, associating each available time slice (ts) with a set of corresponding forecast time slices (fts).	epoch	{ "ts": 1437425100, "fts": [1437445800] },
ts	The time slice (ts) is an Epoch formatted time stamp. The example (ts) equates to: GMT: Mon, 20 Jul 2015 20:30:00 GMT	epoch	1437424200
fts	Forecast Time Slice (fts) is an Epoch formatted time stamp. The example (fts) equates to: GMT: Tue, 21 Jul 2015 02:00:00 GMT	epoch	1437444000

Tile Layers			
ts	The time slice (ts) is an Epoch formatted time stamp. The example (ts) equates to: GMT: Mon, 20 Jul 2015 20:30:00 GMT	epoch	**1437424200**
fts	Forecast Time Slice (fts) is an Epoch formatted time stamp. The example (fts) equates to: GMT: Tue, 21 Jul 2015 02:00:00 GMT	epoch	**1437444000**
xyz	The xyz is the tile address scheme. Each tile is given an X and Y coordinate ranging from (0) in the upper left to (2^{zoom} -1, 2^{zoom} -1) in the lower right of a Mercator Projected map. • x ranges from 0 (left edge is 180°W) to 2^{zoom} -1 (right edge is 180°E) with TileX = floor(mapPixelX / 256) • y ranges from 0 (top edge is 85.0511°N) to 2^{zoom} -1 (bottom edge is 85.0511°S) with TileY = floor(mapPixelY/256) • z is the zoom level defined for the image	integer	**0:0:1**

JSON Sample - The Series List:

The Image Tile Server API will serve a series list, in Json / Jsonp, which will describe the layers that are available, the time slices which are currently available, the native zoom for the layer, the maximum zoom for the layer, and a bounding box confining the layer. The Series list will contain entries for each layer such as:

Forecast Layer: marineWindspeed


```
{
"seriesInfo": {
"marineWindspeed": {
"nativeZoom": 5,
"maxZoom": 13,
"bb": {
"tl": {
"lat": "-180.0",
"lng": "90.0"
},
"br": {
"lat": "179.959936523",
"lng": "-90.00000762939453"
}
},
"series": [
{
"ts": 1458304200,
"fts": [
1458329400,1458328500,1458327600,1458326700,1458325800,1458324900,1458324000,1458323100,1458322200,1458321300,1458320400,1458319500,1458318600,1458317700,1458316800,14583159
00,1458315000,1458314100,1458313200,1458312300,1458311400,1458310500,1458309600,1458308700,1458307800,1458306900,1458306000,1458305100]
},
{
"ts": 1458303300,
"fts": [] (fts Series data collapsed for presentation only)
}
```

```
]
},
"marineWindDirection": {}, (Layer & Series data collapsed for presentation only)
“significantHeightofCombinedWindWavesAndSwell”: {},
“significantHeightofCombinedWindWavesAndSwell”: {} (Additional layers omitted for presentation only)
}
}
```

Address Tile Scheme

Converting between QuadKey and XYZ:

The subsequent tile layer requires a tile address in the XYZ scheme. The XYZ parameters must be integer coordinates describing the tile position according to the XYZ tiling scheme.
The tile address format is determined by the underlying base map that a client chooses to use. For example:

- Google uses XYZ scheme
- Mapbox uses XYZ scheme
- Bing uses the QuadKey scheme

The Bing Base Map tile address requires conversion from QuadKey to the XYZ scheme; see linked reference: - Bing Maps Reference - https://msdn.microsoft.com/en-us/library/bb259689.aspx.

Example code to convert the QuadKey tile address to XYZ scheme

```
object QuadKey {
  def getQuadKey(x:Int, y:Int, level:Int):String = {
    val quadKey = new StringBuilder()
    (level to 1 by -1).foreach( zoomLevel => {
      val mask = 1 << (zoomLevel-1)
      quadKey.append(appendValue( (x & mask) != 0, (y & mask) != 0) )
    })
    quadKey.toString()
  }
  def appendValue(xMask:Boolean, yMask:Boolean):Int = (xMask,yMask) match {
    case (true, true) => 3
    case (_, true)    => 2
    case (true, _)    => 1
    case _            => 0
  }

  def getXYZoom(quadKey:String):XYZ =
  {
    var x = 0
    var y = 0
```

```
  var zoom = quadKey.length

  (zoom to 1 by -1).foreach(i => {
    val mask = 1 << (i - 1)
    val cell = quadKey.charAt(zoom - i).toInt
    if ((cell & 1) != 0)
    {
      x = x + mask
    }
    if ((cell & 2) != 0)
    {
      y = y + mask
    }
  })
  XYZ(x, y, zoom)
}}
```

Base Map Implementation: Google

Using the Google API, a custom weather layer is done by extending the ImageMapType. The Google API will make a number of calls to the ImageMapType.getTile() when the layer is displayed. The getTile() function takes the tileCoord: Point, and a zoom: Int variable, which create the XYZ parameter needed in the Tile request url.

Weather Imagery Layers: Color Palette Legends

Please use SSDS Catalog for additional information on palettes.

significantHeightofCombinedWindWavesAndSwell : Forecast Layer - Significant height of combined wind waves and swell
significantHeightofSwellWaves : Forecast Layer - Significant height of primary swell waves
significantHeightofWindWaves : Forecast Layer - Significant height of primary wind waves at surface

Color	RGB	Value (meters)
	17,69,128	0
	0,6,255	0.5
	27,133,255	1
	3,169,236	1.5
	12,235,235	2

	18,255,0	3
	14,198,0	4
	6,128,0	5
	117,255,0	6
	255,255,0	7
	236,235,0	8
	255,209,0	9
	255,115,0	10
	255,0,0	11
	255,57,0	12
	198,0,0	13
	128,0,0	14
	198,122,0	15
	139,86,1	16

primaryWaveDirection : Forecast Layer - Primary wave direction at surface
directionofSwellWaves : Forecast Layer - Primary swell direction
directionofWindWaves : Forecast Layer - Primary wind waves direction at surface
marineWindDirection : Forecast Layer - Ten-meter wind direction

Color	RGB	Value (cardinal degrees)
	2,32,139	0
	16,8,253	45
	5,111,253	90
	1,255,249	135

	0,254,0	180
	237,255,0	225
	250,144,4	270
	252,4,4	315
	155,2,2	360

primaryWavePeriod : Forecast Layer - Primary wave mean period at surface
periodofSwellWaves : Forecast Layer - Primary swell mean period at surface
periodofWindWaves : Forecast Layer - Primary wind waves mean period at surface

Color	RGB	Value (seconds)
	2,32,139	1
	16,8,253	3
	5,111,253	6
	1,255,249	9
	0,254,0	12
	237,255,0	15
	250,144,4	18
	252,4,4	21
	155,2,2	25

marineWindspeed : Forecast Layer - Ten-meter wind speed at specified height level above ground

Color	RGB	Value (m/s)
	17,69,128	0
	0,6,255	1

	27,133,255	7
	3,169,236	8
	12,235,235	10
	18,255,0	14
	117,255,0	15
	255,255,0	19
	236,235,0	20
	255,209,0	21
	255,115,0	22
	255,0,0	26
	255,57,0	28
	198,0,0	30

Document Revision History

Revision	Date	Notes
1.0	March 30, 2021	Initial versioned document;
1.1	April 14, 2021	Added associated colortables;

Weather Company Data - Enhanced Forecast | Precipitation Forecast - v1

Domain Portfolio: Forecast | Domain: Short-Range Forecast | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Precipitation Events Forecast API provides a weather forecast for precipitation events(rain, snow, sleet, freezing rain) onset and offset times for 28 time steps over the next 7 hours.

Understanding the Precipitation Forecast-Forecast Composition

1. The Precipitation Events Forecast (aka "onset/offset", aka "precip events") is the summary "events" of the raw 15-minute data. In practice 24 time steps are almost never returned. There is often only 1 event (e.g., "dry through the entire 6hr period"). However, there will always be at least one event returned. While the theoretical maximum is 24 events, in practice it rarely goes above 10-12 events.
2. During a 6 hour period if the weather changes from dry to cloudy to rain or snow then you have a record for each part with start time and end time. Unlike like hourly or other time sliced forecast that are based on time period. This forecast is based on weather events and not on time.

Understanding the Precipitation Forecast-Forecast Implementation

To request and display the Precipitation Events product. You need not pass a parameter to select an hour or day. Each request will return the full precipitation events for the next 6 hours.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- characteristic
- event_type
- intensity
- severity

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2fcstprecip
Request by Geocode (Latitude & Longitude): Required Parameters: language, format, units, geocode, apiKey=**yourApiKey**		
https://api.weather.com/v1/geocode/34.063/-84.217/forecast/precipitation.json?language=en-US&units=e&apiKey=yourApiKey		
Request by Postal Code: Required Parameters: language, format, units, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>		
https://api.weather.com/v1/location/30075:4:US/forecast/precipitation.json?language=en-US&units=e&apiKey=yourApiKey		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
characteristic	A number which corresponds to the precipitation characteristic description. 0 = none, 1 = intermittent, 2 = continuous	Integer	0 - 2	1	N
class	Data identifier	string		fod_short_range_precipitation	N
event_end	The end time for a forecasted precipitation event in UNIX seconds.	epoch		1369252800	N
event_end_local	The local end time for a forecasted precipitation event in UNIX seconds in the location's local time.	ISO	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
event_start	The start time for a forecasted precipitation event in UNIX seconds.	epoch		1369252800	N
event_start_local	The start time for a forecasted precipitation event in UNIX seconds in the location's local time.	ISO	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
event_type	A number which corresponds to the precipitation event type description. 0=none, 1=rain, 2=snow, 3=mix, 4=thunder	Integer	0 - 4	2	N
imminence	A number which corresponds to the imminence of precipitation as a color. 0 = green, 1 = yellow, 2 = red	Integer	0 - 3	1	N
intensity	A number which corresponds to the precipitation intensity description. 0 = none, 1 = light, 2 = moderate, 3 = heavy	Integer	0 - 3	1	N
num	Precipitation event number within the API response	Integer	Usually less than 10	7	N
qpf	The measurable precipitation (liquid or solid) during a given forecasted event.	Decimal	0 to 99.99	5.65	N
severity	A number which corresponds to the precipitation severity.	Integer	1 through 6 , 1=lowest...6=highest	6	N
snow_qpf	The forecasted measurable precipitation as snow during the forecast event.	Decimal	0 to 999.99	123.9	N

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1473206165118:2068731322",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1473206600,
      "status_code": 200
   },
   "forecasts": [
      {
         "class": "fod_short_range_precipitation",
         "expire_time_gmt": 1473206600,
```

```
        "num": 1,
        "event_start": 1473206400,
        "event_end": 1473231600,
        "event_start_local": "2016-09-06T20:00:00-0400",
        "event_end_local": "2016-09-07T03:00:00-0400",
        "event_type": 0,
        "intensity": 0,
        "severity": 1,
        "characteristic": 0,
        "imminence": 0,
        "qpf": 0,
        "snow_qpf": 0
      }
   ]
}
```

Vector Aviation VAAC Advisories - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation VAAC Advisories - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** || **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6015/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** || **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6015/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6015 - Aviation VAAC Advisories

The source of the data is one of nine Volcanic Ash Advisory Centers worldwide. Each VAAC is responsible for providing Volcanic Ash Advisories whenever a volcanic event occurs in their area of responsibility. VAAC advisories are made available as they are received.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's* ***properties*** *field*	**Description**
advisory_num	Volcanic Ash Advisory number
alert_coding	Alert code
area_name	Name of country or geographical region
eruption_details	Details of eruption, emissions, ash cloud
icao_site_id	VAAC ICAO code
id	Unique identifier of the record
next_issuance	Time of next advisory issuance
raw_data	Raw Volcanic Ash Advisory data
remarks	VAAC remarks
source	Information source such as satellite imagery or webcam
upper_level_winds	Direction and speed of upper-level winds
vaac_name	Name of VAAC
valid_time	Time of Volcanic Ash Advisory issuance
volcano_elev	Summit elevation of volcano
volcano_id	Volcano ID number
volcano_name	Name of volcano

Almanac Daily - US - v3

Domain Portfolio: Lifestyle | Domain: Lifestyle | Usage Classification: Standard

Geography: US Only **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Almanac API is a public API. The almanac information for this API is sourced from National Weather Service observations stations from a time period spanning 10 to 30 years or more. The information is gathered and provided by the National Climatic Data Center (NCDC) and is re-distributed to all TWC platforms.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Atomic Endpoints	Aggregate Product Names
v3/wx/almanac/daily/1day	v3-wx-almanac-daily-1day
v3/wx/almanac/daily/5day	v3-wx-almanac-daily-5day
v3/wx/almanac/daily/7day	v3-wx-almanac-daily-7day
v3/wx/almanac/daily/10day	v3-wx-almanac-daily-10day
v3/wx/almanac/daily/15day	v3-wx-almanac-daily-15day
v3/wx/almanac/daily/30day	v3-wx-almanac-daily-30day
v3/wx/almanac/daily/45day	v3-wx-almanac-daily-45day

URL Construction

*Note:

- **day** and **month** are required parameters for the '1day' endpoint. **startDay** and **startMonth** are required parameters for '5day', '7day', '10day', '15day', '30day' and '45day' endpoints.
- Sample request for '1day' endpoint: https://api.weather.com/v3/wx/almanac/daily/1day?**geocode=33.33,-83.22**&format=json&units=h&day=31&month=12&apiKey**=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description	Endpoints
day	any valid day of the month, range 01-31, 1 Day data return	any valid day of the month, range 01-31, 1 Day data return	1day
month	any valid month of the year, range 01-12, 1 Day data return	any valid month of the year, range 01-12, 1 Day data return	1day
startDay	any valid day of the month, range 01-31	any valid day of the month, range 01-31	5day, 7day, 10day, 15day, 30day, 45day
startMonth	any valid month of the year, range 01-12	any valid month of the year, range 01-12	5day, 7day, 10day, 15day, 30day, 45day

Request by Geocode: Required Parameters: geocode, units, format, startDay **or** day, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/daily/5day?**geocode=<geocode>**&format=<format>&units=<units>&startDay=<startDay>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/daily/5day?**geocode=33.33,-83.22**&format=json&units=h&startDay=31&startMonth=12&apiKey**=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, format, startDay **or** day, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/daily/5day?**iataCode=<iataCode>**&format=<format>&units=<units>&startDay=<startDay>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/daily/5day?**iataCode=DEN**&format=json&units=h&startDay=31&startMonth=12&apiKey**=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, format, startDay **or** day, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/daily/5day?**icaoCode=<icaoCode>**&format=<format>&units=<units>&startDay=<startDay>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/daily/5day?**icaoCode=KDEN**&format=json&units=h&startDay=31&startMonth=12&apiKey**=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, format, startDay **or** day, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/daily/5day?**placeid=<placeid>**&format=<format>&units=<units>&startDay=<startDay>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/daily/5day?**placeid=ee0214ae7fb1d265f3e4d2509e77557119b2cac9d0ac1013b593c74a1567f2b7**&format=json&units=h&startDay=31&startMonth=12&apiKey**=yourApiKey**
Request by Postal Key: Required Parameters: postalKey, units, format, startDay **or** day, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/daily/5day?**postalKey=<postalKey>**&format=<format>&units=<units>&startDay=<startDay>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/daily/5day?**postalKey=81657:US**&format=json&units=h&startDay=31&startMonth=12&apiKey**=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
almanac		array			
almanacInterval	Defines the time interval the data was recorded: as a daily value, a monthly value, or an annual value; an average for the entire data set.	[string]	-	D	N
almanacRecordDate	Date of the Almanac record	[ISO]	-	1231	N
almanacRecordPeriod	Number of years compiling records	[integer]	-	30	Y
almanacRecordYearMax	The Year that high was recorded	[ISO]	-	1984	Y
almanacRecordYearMin	The Year that low was recorded	[ISO]	-	1983	Y
precipitationAverage	The Average Precipitation amount to two decimal points of specificity	[decimal]	-	0.16	Y
snowAccumulationAverage	The Average Snow accumulation to one decimal point of specificity	[decimal]	-	2.8	Y
stationId	Unique identifier for a reporting station	[string]	-	93271	N
stationName	The common name of the reporting station. The station name, usually a city or airport location, for a unique station Id. In some cases, the	[string]	-	VAIL	Y

	reporting station is not located in the city itself but in nearby locations such as military bases or official reporting facility.				
temperatureAverageMax	The Average High temperature	[integer]	-	54	Y
temperatureAverageMin	The Average Low temperature	[integer]	-	32	Y
temperatureMean	The Mean Temperature for the period	[integer]	-	43	Y
temperatureRecordMax	The Record High for the day	[integer]	-	75	Y
temperatureRecordMin	The Record Low for the day	[integer]	-	11	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
        almanacInterval:
        [
                "D"
        ],
        almanacRecordDate:
        [
                "1231"
        ],
        almanacRecordPeriod:
        [
                30
        ],
        almanacRecordYearMax:
        [
                2011
        ],
        almanacRecordYearMin:
        [
                1988
        ],
        precipitationAverage:
        [
                1.27
        ],
        snowAccumulationAverage:
        [
                2.8
        ],
        stationId:
        [
                "058575"
        ],
```

```
        stationName:
        [
                "VAIL"
        ],
        temperatureAverageMax:
        [
                -3
        ],
        temperatureAverageMin:
        [
                -15
        ],
        temperatureMean:
        [
                -9
        ],
        temperatureRecordMax:
        [
                6
        ],
        temperatureRecordMin:
        [
                -21
        ]
}
```

Almanac Monthly - Global - v3

Domain Portfolio: Lifestyle | Domain: Lifestyle | Usage Classification: Standard

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Almanac API is a public API. The almanac information for this API is sourced from National Weather Service observations stations from a time period spanning 10 to 30 years or more. The information is gathered and provided by the National Climatic Data Center (NCDC) and is re-distributed to all TWC platforms.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Atomic Endpoints	Aggregate Product Names
v3/wx/almanac/monthly/1month	v3-wx-almanac-monthly-1month
v3/wx/almanac/monthly/3month	v3-wx-almanac-monthly-3month
v3/wx/almanac/monthly/6month	v3-wx-almanac-monthly-6month

URL Construction

*Note:

- **month** is a required parameter for the '1month' endpoint. **startMonth** is a required parameter for '3month' and '6month' endpoints.

Request by Geocode: Required Parameters: geocode, units, format, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/monthly/3month?**geocode=<geocode>**&format=<format>&units=<units>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/monthly/3month?**geocode=34,-84**&format=json&units=h&startMonth=12&apiKey**=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, format, startMonth (month for 1 month endpoint), apiKey* https://api.weather.com/v3/wx/almanac/monthly/3month?**iataCode=<iataCode>**&format=<format>&units=<units>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/monthly/3month?**iataCode=DEN**&format=json&units=h&startMonth=12&apiKey**=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, format, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/monthly/3month?**icaoCode=<icaoCode>**&format=<format>&units=<units>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/monthly/3month?**icaoCode=KDEN**&format=json&units=h&startMonth=12&apiKey**=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, format, startMonth **or** month, apiKey*

https://api.weather.com/v3/wx/almanac/monthly/3month?**placeid=<placeid>**&format=<format>&units=<units>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/monthly/3month?**placeid=ee0214ae7fb1d265f3e4d2509e77557119b2cac9d0ac1013b593c74a1567f2b7**&format=json&units=h&startMonth=12&apiKey**=yourApiKey**
Request by Postal Key: Required Parameters: postalKey, units, format, startMonth **or** month, apiKey* https://api.weather.com/v3/wx/almanac/monthly/3month?**postalKey=<postalKey>**&format=<format>&units=<units>&startMonth=<startMonth>&apiKey**=yourApiKey**
https://api.weather.com/v3/wx/almanac/monthly/3month?**postalKey=81657:US**&format=json&units=h&startMonth=12&apiKey**=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
month	any valid month of the year, range 1-12, 1 Month data return	any valid month of the year, range 1-12
startMonth	any valid month of the year, range 1-12	any valid month of the year, range 1-12

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
almanac		array			
almanacInterval	Defines the time interval the data was recorded: as a daily value, a monthly value, or an annual value; an average for the entire data set.	[string]	-	D	N
almanacRecordDate	Date of the Almanac record	[ISO]	-	1231	N
almanacRecordPeriod	Number of years compiling records	[integer]	-	30	Y
almanacRecordYearMax	The Year that high was recorded	[ISO]	-	1984	Y
almanacRecordYearMin	The Year that low was recorded	[ISO]	-	1983	Y
precipitationAverage	The Average Precipitation amount to two decimal points of specificity	[decimal]	-	0.16	Y
snowAccumulationAverage	The Average Snow accumulation to one decimal point of specificity	[decimal]	-	2.8	Y
stationId	Unique identifier for a reporting station	[string]	-	93271	N
stationName	The common name of the reporting station. The station name, usually a city or airport location, for a unique station Id. In some cases, the reporting station is not located in the city itself but in nearby locations such as military bases or official reporting facility.	[string]	-	VAIL	Y
temperatureAverageMax	The Average High temperature	[integer]	-	54	Y
temperatureAverageMin	The Average Low temperature	[integer]	-	32	Y
temperatureMean	The Mean Temperature for the period	[integer]	-	43	Y
temperatureRecordMax	The Record High for the day	[integer]	-	75	Y
temperatureRecordMin	The Record Low for the day	[integer]	-	11	Y

JSON Sample

```
// Response Collapsed for Presentation Purposes
{
        almanacInterval:
        [
                "M"
        ],
        almanacRecordDate:
        [
                "1201"
        ],
        almanacRecordPeriod:
        [
                30
        ],
        almanacRecordYearMax:
        [
                1987
        ],
        almanacRecordYearMin:
        [
                1986
        ],
        precipitationAverage:
        [
                41.4
        ],
        snowAccumulationAverage:
        [
                74.2
        ],
        stationId:
        [
                "058575"
        ],
        stationName:
        [
                "VAIL"
        ],
        temperatureAverageMax:
        [
                -3
        ],
        temperatureAverageMin:
        [
                -14
        ],
        temperatureMean:
        [
```

```
                -8
        ],
        temperatureRecordMax:
        [
                11
        ],
        temperatureRecordMin:
        [
                -30
        ]
}
```

Weather Company Data - Core | Time-Series Observations (Current & 24 Hours Past) - v1

Domain Portfolio: Observations | Domain: Current Conditions | API Name: Time-Series Observations (Current & 24 Hours Past) - v1

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Time-Series Observations returns the previous 24 hour period from the previous day up to the last reported current condition today. Current Conditions are sourced from physical site-based observation stations. This API returns the latest weather observation for the location supplied to include current temperatures, winds, pressure and other observed weather information. Weather observations are reported from physical devices deployed worldwide (weather data collected from METAR, SYNOP, BUOY, CMAN devices).

Current Condition & Time-Series Data

Access to retained site-based weather observations will be distributed on-demand in Current Conditions and Time Series data feeds. Observations per station within a 24 hour period varies due to station operation requirements (i.e. modified operating hours, number of observations recorded per hour, maintenance issues, etc).

The recent observations data will be continuously updated and replaced with a first-in / first-out methodology, (rotating data with newest observation and moving the oldest observations to the archive storage) based on date/time stamping of the observations. The amount of data retained and available from any given station may be more than a single observation or more than 24 individual observation reports for any given station id. The number of observations is determined by the type of observation reported i.e. NWS, etc.

- It is not to be assumed that data returned will be equal to the hours of past observations requested. Example: 3 hours of past observations may not return just 3 observations.
- Some reporting stations report observations more than once an hour.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- pressure_desc
- uv_desc
- wx_phrase
-

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2obstimes
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format, units, hours, apiKey=**yourApiKey**		
https://api.weather.com/v1/geocode/34.063/-84.217/observations/timeseries.json?language=en-US&units=e&hours=1&apiKey=yourApiKey		
Request by Postal Code: Required Parameters: language, format, units, hours, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>		
https://api.weather.com/v1/location/30075:4:US/observations/timeseries.json?language=en-US&units=e&hours=1&apiKey=yourApiKey		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
blunt_phrase	Weather description qualifier short phrase	string		Warmer than yesterday.	Y
class	data identifier	string	default	observation	N
clds	Cloud cover description code	string	SKC, CLR, SCT, FEW, BKN, OVC	SKC	Y
day_ind	Daytime or nighttime of the local apparent time of the location	string	D = Day, N = Night, X = Missing (for extreme northern and southern hemisphere	D	Y
dewpt	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dew Point and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	integer	-80 to 100 (°F) or -62 to 37 (°C)	60	Y
expire_time_gmt	Expiration time in UNIX seconds	epoch		1369252800	N
feels_like	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index.	integer	-140 to 140	60	Y
gust	Wind gust speed. This data field contains information about sudden and temporary variations of the average Wind Speed. The report always shows the maximum wind gust speed recorded during the observation period. It is a required display field if Wind Speed is shown. The speed of the gust can be expressed in miles per hour or kilometers per hour.	integer		35	Y
heat_index	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. When the temperature is 70°F or higher, the Feels Like value represents the computed Heat Index. For temperatures between 40°F and 70°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so use the Temperature value.	integer		70	Y
icon_extd	The four-digit number to represent the observed weather conditions. Refer to the Icon Code, Weather Phrases and Images document	integer		5500	Y
key	Primary data field to group or access data	string	same as observation ID	KATL	N

max_temp	High temperature in the last 24 hours	integer	-140 to 140	81	Y
min_temp	Low temperature in the last 24 hours	integer	-140 to 140	48	Y
obs_id	Observation station ID	string		KATL	N
obs_name	Observation station name	string		Hartsfield-Jackson Airport	N
precip_hrly	Precipitation for the last hour	decimal	0.00 to 99.99	0.5	Y
precip_total	Precipitation amount in the last rolling 24 hour period	decimal	0.00 to 99.99	0.3	Y
pressure	Barometric pressure is the pressure exerted by the atmosphere at the earth's surface, due to the weight of the air. This value is read directly from an instrument called a mercury barometer and its units are expressed in millibars (equivalent to HectoPascals).	double		30.06	Y
pressure_desc	A phrase describing the change in the barometric pressure reading over the last hour.	string	Steady, Rising, Rapidly Rising, Falling, Rapidly Falling	Steady	Y
pressure_tend	The change in the barometric pressure reading over the last hour expressed as an integer.	integer	0 = Steady 1 = Rising or Rapidly Rising 2 = Falling or Rapidly Falling	0	Y
qualifier	Weather description qualifier code	string		QQ0063	Y
qualifier_svrty	Weather description qualifier severity	string	1 (low) to 6 (high)	1	Y
rh	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	integer	0 to 100	91	Y
snow_hrly	Snow increasing rapidly in inches or centimeters per hour depending on whether or not the snowfall is reported by METAR or TECCI (synthetic observations). METAR snow accumulation for the last hour is in inches and TECCI is in centimeters.	decimal	0 to 15	1	Y
temp	The temperature of the air, at the time of the observation, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements.	integer	-140 to 140	62	Y
terse_phrase	Weather description qualifier terse phrase	string		Dangerous wind chills. Limit outdoor exposure.	Y
uv_desc	Ultraviolet index description	string	Extreme, High, Low, Minimal, Moderate, No Report, Not Available	High	Y
uv_index	Ultraviolet index	integer	0 to 11 and 999	7	Y
valid_time_gmt	Valid time of observation as a Unix epoch value (seconds since start of 1970, UTC)	epoch		1369252800	N
vis	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. Visibilities greater than 10 statute miles(16.1 kilometers) which are considered “unlimited” are reported as “999” in your feed. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	double	0 to 999 or null; For greater than 1 = no decimal. For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	10, 0.25 (Metric) 0.25 (Imperial)	Y
wc	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. When the temperature is 61°F or lower the Feels Like value represents the computed Wind Chill so display the Wind Chill value. For temperatures between 61°F and 75°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so display the Temperature value.	integer	Use only if temperature is below 40 degrees Fahrenheit OR below 5 degrees Celsius	-25	Y

wdir	The direction from which the wind blows expressed in degrees. The magnetic direction varies from 1 to 360 degrees, where 360° indicates the North, 90° the East, 180° the South, 270° the West, and so forth. A 'null' value represents no determinable wind direction.	integer	1 to 360	45	Y
wdir_cardinal	This field contains the cardinal direction from which the wind blows in an abbreviated form. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind, the wind is at your face. Face southward and the North wind is at your back.	string	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW, CALM, VAR	ENE	Y
wspd	Wind Speed. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as "wind gusts" and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	integer		15	Y
wx_icon	The two-digit number to represent the observed weather conditions. Refer to the Icon Code, Weather Phrases and Images document	integer	0 to 48	47	Y
wx_phrase	A text description of the observed weather conditions at the reporting station	string	257 phrases	Mostly sunny	Y
water_temp	Water temperature	integer	25 to 100	80	Y
primary_wave_period	Primary wave period	integer	0-99	13	Y
primary_wave_height	Primary wave height	decimal	0-99.99	3.28	Y
primary_swell_period	Primary swell period	integer	0-99	13	Y
primary_swell_height	Primary swell height	decimal	0-99.99	1.64	Y
primary_swell_direction	Primary swell direction	integer	0 to 359	190	Y
secondary_swell_period	Secondary swell period	integer	0-99	null	Y
secondary_swell_height	Secondary swell height	decimal	0-99.99	null	Y
secondary_swell_direction	Secondary swell direction	integer	0 to 359	null	Y

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1473202846859:-356896210",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "hours": 1,
      "expire_time_gmt": 1473209100,
      "status_code": 200
   },
   "observations": [
      {
```

```
"key": "T72227031",
"class": "observation",
"expire_time_gmt": 1473206700,
"obs_id": "T72227031",
"obs_name": "Duluth",
"valid_time_gmt": 1473199500,
"day_ind": "D",
"temp": 90,
"wx_icon": 32,
"icon_extd": 3200,
"wx_phrase": "Sunny",
"pressure_tend": 2,
"pressure_desc": "Falling",
"dewPt": 54,
"heat_index": 88,
"rh": 29,
"pressure": 30.18,
"vis": 10,
"wc": 90,
"wdir": 40,
"wdir_cardinal": "NE",
"gust": null,
"wspd": 1,
"max_temp": 92,
"min_temp": 63,
"precip_total": 0,
"precip_hrly": 0,
"snow_hrly": 0,
"uv_desc": "Low",
"feels_like": 88,
"uv_index": 1,
"qualifier": "OQ0047",
"qualifier_svrty": "1",
"blunt_phrase": "Hot.",
"terse_phrase": "Hot.",
"clds": "SKC",
"water_temp": null,
"primary_wave_period": null,
"primary_wave_height": null,
"primary_swell_period": null,
"primary_swell_height": null,
"primary_swell_direction": null,
"secondary_swell_period": null,
"secondary_swell_height": null,
```

```
        "secondary_swell_direction": null
      },
      {
        // Response Collapsed for Presentation Purposes
      }
    ]
}
```

v

Vector Aviation AIRMETs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation AIRMETs - v2 **Restricted**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: productKey, apiKey=**yourApiKey** **|| Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6002/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: productKey, time, lod, x, y, apiKey=**yourApiKey** **|| Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6002/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6002 - Aviation AIRMETs

The source of the data includes NOAAport, NWS FTP, WxWire and UKMO feed of WMO bulletins. The product is an active state product such that the last transmission in obsoletes any previous issuance. The disappearance of a feature can be inferred as a cancellation or aging out of the prior feature.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Airmet was queried
Issuing_station	ICAO ID of the station that disseminated the WMO bulletin
Issue_time	Timestamp in ISO-8601 format when the WMO bulletin was issued from the source.
Icao_site_id	ICAO ID of the station that issued the WMO bulletin
Airmet_id	ID for the Airmet, where available in the raw format
geometry	GeoJSON Polygon lat/lon coordinates.
Fir_ids	Array of FIR region IDs that intersect the geographic region of the Airmet
Airmet_category	High level categorization of the Airmet when available in the raw format. Currently includes one of S(ierra), T(ango), or Z(ulu).
Raw_type	Non-standardized type string as it was parsed from the raw format
Type	Standardized Type
Phenomenon	Standardized Phenomenon
Active_at	Timestamp in ISO-8601 format when the Airmet becomes active
Expire_at	Timestamp in ISO-8601 format when the Airmet is no longer active
Continuation_time	Optional Timestamp in ISO-8601 format when the upstream source is expected to either extend the time extent or cancel the Airmet
Lower_level	Lower Altitude Boundary in FL units, SFC or FRZLVL
Upper_level	Upper Altitude Boundary in FL units
Moving_dir	Direction of Movement in degrees
Moving_speed	Speed of Movement in Knots
Data	Raw Bulletin Text

Standardized Type/Phenomenon Mapping Table

Phenomenon	**Type**	**Description**
TURB	TURB	Turbulence
	CAT	Clear Air Turbulence
	MTW	Mountain Waves
ICING	RIME	Rime Ice
	FZRA	Freezing Rain

	FZDZ	Freezing Drizzle
	FZFG	Freezing Fog
	ICE	Ice
CONV	SQL TSGR	Squall Thunderstorm with Hail
	EMBD TSGR	Embedded Thunderstorm with Hail
	ISOL TSGR	Isolated Thunderstorm with Hail
	OCNL TSGR	Occasional Thunderstorm with Hail
	FRQ TSGR	Frequent Thunderstorm with Hail
	SQL TS	Squall Thunderstorm
	EMBD TS	Embedded Thunderstorm
	ISOL TS	Isolated Thunderstorm
	OCNL TS	Occasional Thunderstorm
	FRQ TS	Frequent Thunderstorm
	TSGR	Thunderstorm with Hail
	TS	Thunderstorm
	TC	Tropical Cyclone
	TCU	Towering Cumulus
	CB	Cumulonimbus
	FC	Funnel Cloud
	WATERSPOUT	Waterspout
VA	VA CLD	Volcanic Ash Cloud
	VA	Volcanic Ash
	RDOACT CLD	Radioactive Cloud
DUST	DS	Dust Storm
	BLDU	Blowing Dust
	PO	Dust/Sand Whirls
SAND	SS	Sand Storm
	BLSA	Blowing Sand
WINDS	WINDS	Winds
	WS	Wind Shear
	GUSTS	Wind Gusts
VIS	CIG	Ceiling
	MT OBSC	Mountain Obscuration
	BKN CLD	Broken Clouds
	OVC CLD	Overcast
	CLD	Clouds

	BLSN	Blowing Snow
	SN	Snow
	VIS	Visibility/Mist/Rain
	IFR	Instrument Flight Rules
	LOW CLD	Low Clouds/Fog

Aviation Ocean Tracks and Supplements - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name:Aviation Ocean Tracks and Supplements - v2

Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the “Expires” parameter. Example: “Expires: Fri, 12 Jul 2013 12:00:00 GMT”.

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **‘time’** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** || **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request’s **‘time’** parameter.
https://api.weather.com/v2/vector-api/products/6004/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** || **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **‘feature-id’** and **‘valid-time’** parameters.
https://api.weather.com/v2/vector-api/products/6004/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6004 - Aviation Ocean Tracks

The source of the data includes dynamic Organized Track System type NATs, PACOTs, and AUSOTs as well as semi-static airway routes for EPAC between the continental US and Hawaii. The product is an active state product such that the last transmission in obsoletes any previous issuance. The disappearance of a feature can be inferred as a cancellation or aging out of the prior feature. Recently aged out Oceanic Tracks are included for 6 hours past expiration.

The geometry contains the coordinates for the Main/Flex route. The end spokes are contained in the product for Oceanic Track Supplements.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Oceanic Track was queried
Issued_by	ICAO ID of the station that disseminated the WMO bulletin
Issue_time	Timestamp in ISO-8601 format when the Track was issued from the source.
Track_type	Track type, e.g. NAT, PACOT, AUSOT or EPAC
track_id	ID for the Track
Track_direction	Direction of Travel, E(ast) or W(est)
geometry	GeoJSON LineString lat/lon coordinates.
Active_at	Timestamp in ISO-8601 format when the Track becomes active
Expire_at	Timestamp in ISO-8601 format when the Track is no longer active
Is_expired	Boolean denotes recently expired Track
Flight_levels	Array of Flight Levels defined for transit

Remarks	Track Remarks
Description	Description of Track Start/End Points
Navfixes	Array of Navfixes as defined in the Raw Track data
Resolved_navfixes	Array of Navfixes with airways expanded out such that there is a one-to-one correspondence with the geometry lat/lon points.
Data	Raw Bulletin Text

Product Data Dictionary: 6005 - Aviation Ocean Track Supplements

The source of the data includes dynamic Organized Track System type NATs, PACOTs, and AUSOTs. The product is an active state product such that the last transmission in obsoletes any previous issuance. The disappearance of a feature can be inferred as a cancellation or aging out of the prior feature. Recently aged out Oceanic Tracks are included for 6 hours past expiration.

The product includes the end spokes only and is intended to act as a supplement to the Oceanic Tracks product.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Oceanic Track was queried
Track_type	Track type, e.g. NAT, PACOT, AUSOT
track_id	ID for the Track
Track_direction	Direction of Travel, E(ast) or W(est)
geometry	GeoJSON LineString lat/lon coordinates.

Active_at	Timestamp in ISO-8601 format when the Track becomes active
Expire_at	Timestamp in ISO-8601 format when the Track is no longer active
Is_expired	Boolean denotes recently expired Track
Suppl_type	Track supplement type, e.g. ENTRY or EXIT
Departing_icao_ids	Array of Departure ICAO IDs the track pertains to
Landing_icao_ids	Array of Arrival ICAO IDs the track pertains to
Navfixes	Array of Navfixes to supplement the main/flex route
Resolved_navfixes	Array of Navfixes with airways expanded out such that there is a one-to-one correspondence with the geometry lat/lon points.

Tropical Forecast - Projected Path - v2.0
Document Version 1.1

Domain Portfolio: Tropical | Domain: Forecast | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Tropical Forecast - Projected Path API provides the ability to query the single projected path per active storm. Active storm - any storm that has reported in the last 168 hours.
The Tropical Forecast - Projected Path API supports query by Basin, Selected Source, and Storm ID. Note: Storm ID may not be unique and this query may return multiple records.

Note: Storms will only pull from a designated source when calling by stormId.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- storm_type
- storm_sub_type
- storm_dir_cardinal

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	**v2tropicalProjectedPath**
Request by Source and Basin: Required Parameters: source, basin, language, format, units, nautical=(true, false) https://api.weather.com/v2/tropical/projectedpath?**source=default**&**basin=all**&language=en-US&format=<json or xml>&units=e&nautical=<true or false>&**apiKey=yourApiKey**		
https://api.weather.com/v2/tropical/projectedpath?source=default&basin=all&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		
Request by Storm ID: Required Parameters: stormId, language, format, units, nautical=(true, false) https://api.weather.com/v2/tropical/projectedpath?**stormId=EP052016**&language=en-US&format=<json or xml>&units=e&nautical=<true or false>&**apiKey=yourApiKey**		
https://api.weather.com/v2/tropical/projectedpath?stormId=EP052016&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why

you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Wind Averaging Period

Governmental organizations providing tropical data use different periods of time when averaging wind values. The United States uses 1 minute values, New Delhi uses 3 minute values and all others use a 10 minute value. This applies to the following fields found in the payload

Projected Path : wind_radii

Valid Parameters

The valid parameter values listed below are unique to this API and are cases sensitive. These parameters support the ability to 'filter' the request by the supported sources and basins.

Parameter: source	
Valid Parameter Value	Description
default	Data returned is limited to a TWC selected source for that basin. As additional sources are added worldwide, the default source for a particular basin may change.
all	Data returned for all sources for that basin.
Parameter: basin	
Valid Parameter Value	Description
all	Data returned for all supported basins (listed below).
AL	Atlantic Ocean
CP	Central Pacific
EP	Eastern Pacific Ocean
IO	Indian Ocean

SH	Southern Hemisphere
WP	Western Pacific

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
Advisory Info Object					
storm_key	Unique storm identifier through life of the storm	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
storm_id	Storm id. Format will vary by source. Not unique globally	string		EP022002	N
storm_name	Name assigned by issuing agency. Named storms are in proper case	string		Alberto	N
alternate_storm_name	'Storm-name' populated in Japanese when data is from JMA. Otherwise will be'null'	string		null	Y
source	Issuing Agency	string	NHC, CPHC, JTWC	NHC	N
basin	Basin identifier.	string	AL, CP, EP, IO, SH, WP NHC reports for: AL and EP CPHC report for CP JTWC reports for: EP, CP, IO, SH, WP	EP	N
dsgnt_source	true if a TWC selected provider	boolean	True or False	TRUE	N
issue_office	Office issuing bulletin	string		KNHC	N
wmo_id	For sources NHC, WPC and JTWC this data field will contain a value	string		WTPZ34	Y
bulletin_id	Internal use only	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
issue_dt_tm	Time Issuing Agency creates the bulletin	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T01:00:00-00:00	N
issue_dt_tm_tz_cd	IANA code for issue_dt_tm	string		America/New York	N
issue_dt_tm_tz_abbrv	Time zone abbreviation for issue_dt_tm	string		EDT	N
process_time_gmt	Time SUN processed bulletin	epoch		1421175600	N
adv_num	Issuing Agency advisory number	string		12A	Y
adv_dt_tm	Advisory time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:15-08:00	N
adv_dt_tm_tz_cd	IANA code for adv_dt_tm	string		America/New York	N
adv_dt_tm_tz_abbrv	Time zone abbreviation for adv_dt_tm	string		EDT	N
nxt_cmplt_advsry_dt_tm	Anticipated next advisory issue time. Is null if final_advisory = true OR we could not extract next update time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:00-08:00	Y
nxt_cmplt_advsry_dt_tm_tz_cd	IANA code for nxt_cmplt_advsry_dt_tm	string		America/New York	Y
nxt_cmplt_advsry_dt_tm_tz_abbrv	Time zone abbreviation for nxt_cmplt_advsry_dt_tm	string		EDT	Y

final_advisory	Indicates the final advisory issued from the primary source. The value only mirrors the indication within an advisory itself that it is the final advisory. However, it is possible that an issuing office may reissue an advisory if the storm moves back into their area of responsibility.	boolean		true	Y
expire_time_gmt	168 hours past the last advisory time. Suggested removal time.	epoch		1421175600	N
Forecast Object					
fcst_hour	Forecast time steps	integer	12,36,48,72,96 and 120 (Effective 5/15/20 NHC will add a 60 hour forecast object)	12	N
fcst_dt_tm	Forecast time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T01:00:00-05:00	N
fcst_dt_tm_tz_cd	IANA code	string		America/New York	N
fcst_dt_tm_tz_abbrv	Time zone abbreviation	string		EDT	N
latitude	Forecast latitude of the storm	decimal		22.8	N
latitude_hemisphere	Latitude hemisphere	string		S	N
longitude	Forecast longitude of the storm	decimal		-113.7	N
longitude_hemisphere	Longitude hemisphere	string		W	N
storm_number	Given for only named storms leveraging JMA data. Othewise null	integer		null	Y
storm_type_cd	Encoded storm type	string	TD, TS, HU, SS, PT, RO, SD, EX, LOW, PTC, TY, ST, TC,	HU	N
storm_type	Storm type	string	NHC, WPC storm types: Tropical Depression, Tropical Storm, Hurricane, Subtropical Storm, Post-tropical cyclone, Remnants of, Subtropical Depression, Extratropical, Extra Tropical Low, Potential Tropical Cyclone JTWC storm types: Typhoon, Super Typhoon, Tropical Cyclone,	Hurricane	N
storm_sub_type_cd	Encoded storm sub type	string	1, 2, 3, 4, 5	1	Y
storm_sub_type	Storm sub type	string	Category 1 Hurricane Category 2 Hurricane Category 3 Hurricane Category 4 Hurricane Category 5 Hurricane Category 1 Tropical Cyclone Category 2 Tropical Cyclone Category 3 Tropical Cyclone Category 4 Tropical Cyclone Category 5 Tropical Cyclone Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclonic Storm	Category 5 Hurricane Note: In EP, CP, and AL, only storm_type=HU (Hurricane) has a sub_type In WP, no storm_type has a sub_type In IO and SH, storm_type=TC (Tropical Cyclone) has a sub_type. If storm_type=TC in another basin, it will not have a sub_type.	Y
suppressed	Suppress the forecast hour (true or false)	boolean		true	N
max_sustained_wind	Maximum sustained winds	integer		45	N

wind_gust	Wind gust	integer		70	Y
Endpoints Object					
endpoint_left_lat	Left forecast cone latitude	decimal		55.10	N
endpoint_left_lon	Left forecast cone longitude	decimal		-47.10	N
endpoint_right_lat	Right forecast cone latitude	decimal		57.90	N
endpoint_right_lon	Right forecast cone longitude	decimal		-47.90	N
Storm Wind Radius Object Values					
radii_wspd	Wind speed for the associated quadrant	integer		64	N
NE	Distance from the forecast position of the storm in the NE quadrant where radii_wspd begin	integer		75	N
SE	Distance from the forecast position of the storm in the SE quadrant where radii_wspd begin	integer		75	N
SW	Distance from the forecast position of the storm in the SW quadrant where radii_wspd begin	integer		80	N
NW	Distance from the forecast position of the storm in the NW quadrant where radii_wspd begin	integer		80	N
Heading Object - Storm heading information					
storm_dir	Current direction of the storm in degrees	string		340	N
storm_dir_cardinal	Cardinal wind direction	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Almost Stationary, Stationary, Drifting , Meandering	NNW	N
storm_spd	Forward speed of the storm	integer		12	Y

JSON Sample

Sample Response


```
{
"metadata": {
"language": "en-US",
"transaction_id": "1465844819313:1669263939",
"version": "2",
"nautical": "true",
"units": "e",
"basin": "all",
"source": "default",
"expire_time_gmt": 1465866420,
"status_code": 200
},
"advisoryinfo": [
{
"bulletin_id": "11CD8A58FBF14D37ABF8AD926E7714B4",
"storm_key": "7EE43DD5A3ED5956652E80BDC0524E8B",
```

```
"storm_id": "AL032016",
“storm_number”: null,
"storm_name": "Colin",
“alternate_storm_name”: null,
"source": "NHC",
"dsgnt_source": true,
"basin": "AL",
"issue_office": "KNHC",
"wmo_id": "WTNT23",
"issue_dt_tm": "2016-06-07T20:19:00Z",
"issue_dt_tm_tz_cd": "Etc/UTC",
"issue_dt_tm_tz_abbrv": "UTC",
"adv_num": "10",
"adv_dt_tm": "2016-06-07T17:00:00-04:00",
"adv_dt_tm_tz_cd": "America/New_York",
"adv_dt_tm_tz_abbrv": "EDT",
"nxt_cmplt_advsry_dt_tm": "2016-06-07T17:00:00-04:00",
"nxt_cmplt_advsry_dt_tm_tz_cd": "America/New_York",
"nxt_cmplt_advsry_dt_tm_tz_abbrv": "EDT",
"final_advisory": true,
"projectedpath": [
{
"fcst_hour": 12,
"fcst_dt_tm": "2016-06-08T02:00:00-04:00",
"fcst_dt_tm_tz_cd": "America/New_York",
"fcst_dt_tm_tz_abbrv": "EDT",
"storm_type_cd": "PT",
"storm_type": "Post-Tropical Cyclone",
"storm_sub_type_cd": null,
"storm_sub_type": null,
"suppressed": false,
"max_sustained_wind": 55,
"wind_gust": 65,
"heading": {
"storm_dir": "66",
"storm_dir_cardinal": "ENE",
"storm_spd": 40
},
"latitude": 39.5,
"latitude_hemisphere": "N",
"longitude": -65.5,
"longitude_hemisphere": "W",
"endpoint_left_lat": 39.96,
"endpoint_left_lon": -65.76,
"endpoint_right_lat": 39.04,
"endpoint_right_lon": -65.24,
"wind_radii": [
{
"radii_wspd": 34,
"NE": 60,
```

"SE": 240,
"SW": 180,
"NW": 60
},
{
"radii_wspd": 50,
"NE": 0,
"SE": 100,
"SW": 0,
"NW": 0
}]},
{}, {}, {}, {}, * Forecast 24, 48, 36, 72 Objects Collapsed For Display Purposes * Effective 5/15/2020 NHC will add a 60 hour forecast object
],
"process_time_gmt": 1465369967,
"expire_time_gmt": 1465938000
},
{} * Additional Bulletin Object Collapsed For Display Purposes
]}

Vector Aviation SIGMETs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation SIGMETs - v2 **Restricted**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: productKey, apiKey=**yourApiKey** **|| Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6003/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: productKey, time, lod, x, y, apiKey=**yourApiKey** **|| Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6003/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6003 - Aviation SIGMETs

The source of the data includes NOAAport, NWS FTP, WxWire and UKMO feed of WMO bulletins. The product is an active state product such that the last transmission in obsoletes any previous issuance. The disappearance of a feature can be inferred as a cancellation or aging out of the prior feature.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Sigmet was queried
Issuing_station	ICAO ID of the station that disseminated the WMO bulletin
Issue_time	Timestamp in ISO-8601 format when the WMO bulletin was issued from the source.
Icao_site_id	ICAO ID of the station that issued the WMO bulletin
Sigmet_id	ID for the Sigmet
geometry	GeoJSON Polygon lat/lon coordinates.
Fir_ids	Array of FIR region IDs that intersect the geographic region of the Sigmet
Conv_sigmet_region	Convective Sigmet region for US issued Sigmets. E(ast), C(entral), or W(est)
Raw_type	Non-standardized type string as it was parsed from the raw format
Type	Standardized Type (see table below)
Phenomenon	Standardized Phenomenon (see table below)
Active_at	Timestamp in ISO-8601 format when the Sigmet becomes active
Expire_at	Timestamp in ISO-8601 format when the Sigmet is no longer active
Lower_level	Lower Altitude Boundary in FL units or SFC
Upper_level	Upper Altitude Boundary in FL units
Moving_dir	Direction of Movement in degrees
Moving_speed	Speed of Movement in Knots
Data	Raw Bulletin Text

Standardized Type/Phenomenon Mapping Table

Phenomenon	**Type**	**Description**
TURB	TURB	Turbulence
	CAT	Clear Air Turbulence
	MTW	Mountain Waves
ICING	RIME	Rime Ice
	FZRA	Freezing Rain
	FZDZ	Freezing Drizzle
	FZFG	Freezing Fog

	ICE	Ice
CONV	SQL TSGR	Squall Thunderstorm with Hail
	EMBD TSGR	Embedded Thunderstorm with Hail
	ISOL TSGR	Isolated Thunderstorm with Hail
	OCNL TSGR	Occasional Thunderstorm with Hail
	FRQ TSGR	Frequent Thunderstorm with Hail
	SQL TS	Squall Thunderstorm
	EMBD TS	Embedded Thunderstorm
	ISOL TS	Isolated Thunderstorm
	OCNL TS	Occasional Thunderstorm
	FRQ TS	Frequent Thunderstorm
	TSGR	Thunderstorm with Hail
	TS	Thunderstorm
	TC	Tropical Cyclone
	TCU	Towering Cumulus
	CB	Cumulonimbus
	FC	Funnel Cloud
	WATERSPOUT	Waterspout
VA	VA CLD	Volcanic Ash Cloud
	VA	Volcanic Ash
	RDOACT CLD	Radioactive Cloud
DUST	DS	Dust Storm
	BLDU	Blowing Dust
	PO	Dust/Sand Whirls
SAND	SS	Sand Storm
	BLSA	Blowing Sand
WINDS	WINDS	Winds
	WS	Wind Shear
	GUSTS	Wind Gusts
VIS	CIG	Ceiling
	MT OBSC	Mountain Obscuration
	BKN CLD	Broken Clouds
	OVC CLD	Overcast
	CLD	Clouds
	BLSN	Blowing Snow
	SN	Snow

	VIS	Visibility/Mist/Rain
	IFR	Instrument Flight Rules
	LOW CLD	Low Clouds/Fog

Weather Company Data | PWS Recent History - 7 Day - Hourly History - v2

Domain Portfolio: Observations | Domain: Historical | API Name: PWS Recent History - 7 Day - Hourly History - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Personal Weather Stations (PWS) Hourly Historical Observations returns the hourly records for each day's observations report.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2pwsObsHourly7day
Request by PWS Station ID: Required Parameters: format, units, apiKey | Optional Parameter: numericPrecision		
https://api.weather.com/v2/pws/observations/hourly/7day?stationId=KMAHANOV10&format=json&units=e&apiKey=yourApiKey		

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
numericPrecision	decimal	Optional parameter. Set to 'decimal' to ensure data is returned in decimal format when needed. Will return integers if this value is not used.

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
epoch	Time in UNIX seconds	epoch		1369252800	Y
humidityAvg	Average Humidity of the period	integer/decimal		32	Y
humidityHigh	Highest Humidity of the period	integer/decimal		32	Y
humidityLow	Lowest Humidity of the period	integer/decimal		32	Y
lat	Latitude of PWS	decimal	Any valid latitude value. -90 to 90	29.8972	Y
lon	Longitude of PWS	decimal	Any valid longitude value. -180 to 180	-97.9362	Y
obsTimeLocal	Time observation is valid in local apparent time by timezone	ISO	YYYYY-MM-dd HH:mm:ss	2016-09-27 00:59:39	Y

obsTimeUtc	GMT(UTC) time	ISO	ISO 8601 - yyyy-MM-dd'T'HH:mm:ssZZ	2016-09-27T06:59:39Z	Y
solarRadiationHigh	Highest Solar Radiation of the period	integer/decimal		947.0	Y
stationID	ID as registered by wunderground.com	string		KAZTUCSO539	N
tz	Time zone of PWS	string		America/Chicago	Y
uvHigh	Highest UV Index of the period	integer/decimal		2.0	Y
winddirAvg	Wind direction average of the period	integer/decimal		170	Y
imperial metric metric_si uk_hybrid	Object containing fields that use a defined unit of measure. The object label is dependent on the units parameter assigned in the request. "imperial", "metric", "metric_si", "uk_hybrid"	object		imperial: {.....}	N
dewptAvg	Average dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptHigh	Maximum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptLow	Minimum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
heatindexAvg	Heat index average of the period	integer/decimal		68	Y
heatindexHigh	Heat index high temperature of the period	integer/decimal		72	Y
heatindexLow	Heat index low temperature of the period	integer/decimal		62	Y
precipRate	Rate of precipitation - instantaneous precipitation rate. How much rain would fall if the precipitation intensity did not change for one hour	integer/decimal		0.0	Y
precipTotal	Accumulated Rain for the day from midnight to present in defined unit of measure	integer/decimal		0.0	Y
pressureMax	Highest Barometric pressure in defined unit of measure of the period	integer/decimal		30.12	Y
pressureMin	Lowest Barometric pressure in defined unit of measure of the period	integer/decimal		0.01	Y
pressureTrend	Pressure tendency over the preceding period	integer/decimal		28.09	Y
qcStatus	Quality control indicator: -1: No quality control check performed 0: This observation was marked as possibly incorrect by our quality control algorithm 1: This observation passed quality control checks	integer	-1 to 1	1	N
tempAvg	Temperature average of the period	integer/decimal		73	Y
tempHigh	High Temperature of the period	integer/decimal		87	Y
tempLow	Low Temperature of the period	integer/decimal		64	Y
windchillAvg	Windchill average of the period	integer/decimal		32	Y
windchillHigh	High Windchill temperature of the period	integer/decimal		45	Y
windchillLow	Low Windchill temperature of the period	integer/decimal		35	Y
windgustAvg	Wind gust average of the period	integer/decimal		54	Y
windgustHigh	Highest Wind gust of the period	integer/decimal		56	Y
windgustLow	Lowest Wind gust of the period	integer/decimal		43	Y
windspeedAvg	Wind speed average of the period	integer/decimal		3	Y

windspeedHigh	Highest Wind speed of the period	integer/decimal		5	Y
windspeedLow	Lowest Wind speed of the period	integer/decimal		1	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
    observations: [
        {
            stationID: "KNCCARY89",
            tz: "America/New_York",
            obsTimeUtc: "2019-01-29T05:59:57Z",
            obsTimeLocal: "2019-01-29 00:59:57",
            epoch: 1548741597,
            lat: 35.80221176,
            lon: -78.8759613,
            solarRadiationHigh: 0.0,
            uvHigh: 0.0,
            winddirAvg: 135,
            humidityHigh: 76,
            humidityLow: 75,
            humidityAvg: 75,
            qcStatus: 1,
            imperial: {
                tempHigh: 39,
                tempLow: 39,
                tempAvg: 39,
                windspeedHigh: 7,
                windspeedLow: 0,
                windspeedAvg: 2,
                windgustHigh: 7,
                windgustLow: 3,
                windgustAvg: 5,
                dewptHigh: 32.0,
                dewptLow: 31.0,
                dewptAvg: 32.0,
                windchillHigh: 39,
                windchillLow: 34,
                windchillAvg: 38,
                heatindexHigh: 39,
                heatindexLow: 39,
                heatindexAvg: 39,
                pressureMax: 30.01,
                pressureMin: 29.99,
                pressureTrend: -0.02,
                precipRate: 0.0,
                precipTotal: 0.0
            }
        }
```

Hourly Forecast - Enterprise - (6hour, 12hour), (1, 2, 3, 10, 15 Day) - v3.0

Domain Portfolio: Forecast | Domain: Hourly Forecasts | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Hourly Forecast API is sourced from the The Weather Company Forecast system. This TWC API returns weather forecasts starting current day. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company. Please refer to the Data Elements section later in this document for more details.

NOTE: Your content licensing agreement determines the specific endpoint authorized by the API Key entitlements that is provided to your company.
Each time segment duration (6 hour, 12 hour, 1, 2, 3 10, 15 day) is an atomic API endpoint. Your API key must be authorized for each atomic API endpoint to successfully request a given API endpoint.

- For example if your API key is authorized for only the 10 Day, and you attempt to request a 5 Day duration, you will get an error stating that [API not allowed for this api key].

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases for values of the following data. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- windDirectionCardinal
- wxPhraseLong

Atomic Endpoints	Aggregate Product Name
v3/wx/forecast/hourly/6hour/enterprise	v3-wx-forecast-hourly-6hour-enterprise
v3/wx/forecast/hourly/12hour/enterprise	v3-wx-forecast-hourly-12hour-enterprise
v3/wx/forecast/hourly/1day/enterprise	v3-wx-forecast-hourly-1day-enterprise
v3/wx/forecast/hourly/2day/enterprise	v3-wx-forecast-hourly-2day-enterprise
v3/wx/forecast/hourly/3day/enterprise	v3-wx-forecast-hourly-3day-enterprise
v3/wx/forecast/hourly/10day/enterprise	v3-wx-forecast-hourly-10day-enterprise
v3/wx/forecast/hourly/15day/enterprise	v3-wx-forecast-hourly-15day-enterprise

URL Construction

Request by Geocode: Required Parameters: geocode, units, language, format, apiKey=**yourApiKey** https://api.weather.com/**v3/wx/forecast/hourly/1day/enterprise**?**geocode=33.74,-84.39**&language=en-US&format=<json>&units=e&**apiKey=yourApiKey**
https://api.weather.com/v3/wx/forecast/hourly/1day/enterprise?geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey=**yourApiKey** https://api.weather.com/**v3/wx/forecast/hourly/1day/enterprise**?**iataCode=<iataCode>**&units=<units>&language=<language>&format=<format>&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/forecast/hourly/1day/enterprise?**iataCode=DEN**&units=e&language=en-US&format=json&apiKey=**yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey=**yourApiKey** https://api.weather.com/**v3/wx/forecast/hourly/1day/enterprise**?**icaoCode=<icaoCode>**&units=<units>&language=<language>&format=<format>&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/forecast/hourly/1day/enterprise?**icaoCode=KDEN**&units=e&language=en-US&format=json&apiKey=**yourApiKey**
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey=**yourApiKey** https://api.weather.com/**v3/wx/forecast/hourly/1day/enterprise**?**placeid=<placeid>**&units=<units>&language=<language>&format=<format>&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/forecast/hourly/1day/enterprise?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b**&units=e&language=en-US&format=json&apiKey=**yourApiKey**
Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey=**yourApiKey** https://api.weather.com/**v3/wx/forecast/hourly/1day/enterprise**?**postalKey=<postalKey>**&units=<units>&language=<language>&format=<format>&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/forecast/hourly/1day/enterprise?**postalKey=81657:US**&units=e&language=en-US&format=json&apiKey=**yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
ceiling	The height of the lowest cloud base for a cloud deck that covers more than 50% of the sky.	[integer]	English and Hybrid units: Feet, Rounded to the nearest 100 feet. Values 0-60000 (need to confirm). Metric and Metric_SI units: Meters. Rounded to the nearest 30 meters. Values 0-18300. (need to confirm) Unlimited ceiling represented as 99999 in all units of measure	1600	Y
cloudCover	Hourly average cloud cover expressed as a percentage.	[integer]	0 to 100	82	N
conditionalProbabilityRain	If precipitation does occur, this represents the probability that it will include rain, expressed as a percentage. This does not represent the chance of rain occurring.	[integer]	0 to 100	100	N
conditionalProbabilityThunder	If precipitation does occur, this represents the probability that it will include thunder, expressed as a percentage. This does not represent the chance of thunder occurring.	[integer]	0 to 100	20	N
conditionalProbabilityFreezingRain	If precipitation does occur, this represents the probability that it will include freezing rain, expressed as a percentage. This does not represent the chance of freezing rain occurring.	[integer]	0 to 100	5	N

conditionalProbabilitySleet	If precipitation does occur, this represents the probability that it will include sleet, expressed as a percentage. This does not represent the chance of sleet occurring.	[integer]	0 to 100	0	N
conditionalProbabilitySnow	If precipitation does occur, this represents the probability that it will include snow, expressed as a percentage. This does not represent the chance of snow occurring.	[integer]	0 to 100	2	N
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	N
dayOrNight	This data field indicates whether it is daytime or nighttime based on the Local Apparent Time of the location.D = Day, N = Night, X = missing (for extreme northern and southern hemisphere	[string]	D, N, X	D	N
expirationTimeUtc	Expiration time in UNIX seconds	[epoch]		1369252800	N
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions.	[integer]		26	N
iconCodeExtend	Code representing full set sensible weather	[integer]		3200	N
precipChance	Hourly maximum probability of precipitation	[integer]	0 to 100	20	N
precipType	The short text describing the expected type accumulation associated with the Probability of Precipitation POP display for the hour.	[string]	rain, snow, precip (mix of precip types)	rain	N
pressureAltimeter	Mean sea level pressure used to calibrate aircraft altimeters. This is also known as QNH. Expressed in inches of mercury when units=e (i.e. units='US'), expressed in millibars when units=Metric, Hybrid or Metric_SI.	[decimal]	Inches of mercury, precise to hundredths… Precision to tenths when in millibars	30.2	Y
pressureMeanSeaLevel	Hourly mean sea level pressure	[decimal]		30.22	N
qualifierSet	Array of integers representing known qualifier codes. Qualifier codes are only present when the forecasters manually add them to augment the forecast. It is expected for this field to be present only a small subset of the time.	[integer]	See Appendix for full list of qualifier codes	830	Y
qpf	The forecasted measurable precipitation (liquid or liquid equivalent regardless of what type falls) for the upcoming hour. For example, if local time is 8:35 am, the returned value would represent the timeframe of 9:00 am to 10:00 am.	[decimal]	Precision to hundredths when in inches … Precision to tenths when in millimeters	0.09, 2.3	N
qpfIce	The forecasted hourly freezing rain accumulation for the upcoming hour. For example, if local time is 8:35 am, the returned value would represent the timeframe of 9:00 am to 10:00 am.. Note: Actual ice accumulation on a given specific surface may depend on other non-meteorological factors, such as the presence of treatment chemicals.	[decimal]	Precision to hundredths when in inches … Precision to tenths when in millimeters	0.09, 2.3	Y
qpfSnow	The forecasted hourly snow accumulation for the upcoming hour. For example, if local time is 8:35 am, the returned value would represent the timeframe of 9:00 am to 10:00 am.	[decimal]	Precision to tenths (for both inches and centimeters)	0.3	N
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 to 100	83	N
scatteredCloudBaseHeight	The height of the lowest cloud base for a cloud deck that covers more than 25% of the sky.	[integer]	English and Hybrid units: Feet, Rounded to the nearest 100 feet. Values 0-60000. Metric and Metric_SI units: Meters. Rounded to the nearest 30 meters. Values 0-18300. Unlimited scatteredCloudBaseHeight represented as 99999 in all units of measure.	1600	Y
temperature	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.	[decimal]	-140 to 140 (F). Currently 1 decimal precision. The decimal precision may change over the lifetime of the API. Users should be prepared for up to 4 decimal places.	68.3	N

temperatureDewPoint	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dewpoint and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	[decimal]	-80 to 100 (°F) or -62 to 37 (°C)	60.9	Y
temperatureFeelsLike	Hourly feels like temperature. An apparent temperature. It represents what the air temperature feels like on exposed human skin due to the combined effect of the wind chill or heat index.	[decimal]	-140 to 140 (F). Currently 1 decimal precision. The decimal precision may change over the lifetime of the API. Users should be prepared for up to 4 decimal places.	84.3	N
temperatureHeatIndex	Hourly maximum heat index. An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. When the temperature is 70°F or higher, the Feels Like value represents the computed Heat Index. For temperatures between 40°F and 70°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so use the Temperature value.	[decimal]	Currently 1 decimal precision. The decimal precision may change over the lifetime of the API. Users should be prepared for up to 4 decimal places.	84.3	Y
temperatureWindChill	Hourly minimum wind chill. An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. When the temperature is 61°F or lower the Feels Like value represents the computed Wind Chill so display the Wind Chill value. For temperatures between 61°F and 75°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so display the Temperature value.	[decimal]	Currently 1 decimal precision. The decimal precision may change over the lifetime of the API. Users should be prepared for up to 4 decimal places.	68.3	N
temperatureWetBulbGlobe	An apparent temperature that measures expected heat stress in sunlight. It factors in air temperature, humidity, wind speed, sun angle, and cloud cover. If units=e, this will be expressed in Fahrenheit If units=m, this will be expressed in Celsius	[decimal]	Currently 1 decimal precision. The decimal precision may change over the lifetime of the API. Users should be prepared for up to 4 decimal places.	56.3	N
uvDescription	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure. -2 = Not Available, -1 = No Report, 0 to 2 = Low, 3 to 5 = Moderate, 6 to 7 = High, 8 to 10 = Very High, 11 to 16 = Extreme	[string]	Not Available, No Report, Low, Moderate, High, Very High, Extreme	Low	N
uvIndex	Hourly maximum UV index	[integer]	-2 to 16	2	N
validTimeLocal	Time forecast is valid in local apparent time.	[ISO]	ISO 8601 - YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-05:00	N
validTimeUtc	Time forecast is valid in UNIX seconds	[epoch]	Valid epoch value	1369306800	N
visibility	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	[decimal]	0 to 10 or null; For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	5.22	N
windDirection	Hourly average wind direction in magnetic notation.	[integer]	0 to 359	145	N
windDirectionCardinal	Hourly average wind direction in cardinal notation.	[string]	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	N
windGust	The maximum expected wind gust speed.	[integer]		7	Y
windSpeed	The forecast of the sustained wind speed at the top of the hour. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]		5	N

wxPhraseLong	Hourly sensible weather phrase	[string]		Fog Late	N
wxPhraseShort	Hourly sensible weather phrase	[string]		Cloudy	N
wxSeverity	A number denoting how impactful is the forecasted weather for this hour. Can be used to determine the graphical treatment of the weather display such as using red font on weather.com.	[integer]	1 = no threat 6 = dangerous / life threatening	2	N

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
    "cloudCover": [30,45],
    "dayOfWeek": ["Saturday","Saturday"],
    "dayOrNight": ["D","D"],
    "temperatureDewPoint": [60,100],
    "expirationTimeUtc": [1474132031,1474132031],
    "iconCode": [30,30],
    "iconCodeExtend": [3000,3000],
    "precipChance": [0,0],
    "precipType": ["rain","rain"],
    "pressureMeanSeaLevel": [30.1,30.07],
    "qpf": [0.5,0.5],
    "qpfSnow": [0.0,0.0],
    "relativeHumidity": [56,50],
    "temperature": [84.25,86.25 ],
    "temperatureFeelsLike": [87.99,89.99 ],
    "temperatureHeatIndex": [87.25,89.25 ],
    "temperatureWindChill": [84.99,86.99 ],
    "uvDescription": ["Very High","Very High"],
    "uvIndex": [8,8],
    "validTimeLocal": ["2016-09-17T13:00:00-0400","2016-09-17T14:00:00-0400"],
    "validTimeUtc": [1474131600,1474135200],
    "visibility": [10.2,10.2],
    "windDirection": [129,137],
    "windDirectionCardinal": ["SE","SE"],
    "windGust": [null,null],
    "windSpeed": [8,7],
    "wxPhraseLong": ["Partly Cloudy","Partly Cloudy"],
    "wxPhraseShort": ["P Cloudy","P Cloudy"],
    "wxSeverity": [1,1],
    "ceiling": [1600,1650],
    "scatteredCloudBaseHeight": [1600,1650],
    "pressureAltimeter": [30.21,31.12],
    "qpfIce": [0.0,0.0],
    "qualifierSet": [384,null],
    "temperatureWetBulbGlobe": [65.8,59.9],
    "conditionalProbabilityThunder": [83,81],
    "conditionalProbabilitySleet": [0,0],
```

```
        "conditionalProbabilitySnow": [0,0],
        "conditionalProbabilityRain": [100,100],
        "conditionalProbabilityFreezingRain": [0,0]
    }
```


Appendix: Qualifier Codes

0 | Empty Qualifier
600 | Warm.
602 | Very warm.
604 | Hot.
605 | Very hot.
606 | Continued warm.
608 | Continued very warm.
610 | Continued hot.
611 | Continued very hot.
615 | Near record high temperatures.
616 | Record high temperatures expected.
620 | Not as cold.
625 | Turning warmer.
630 | Warmer.
635 | Much warmer.
700 | Cold.
705 | Continued cold.
706 | Very cold.
707 | Continued very cold.
710 | Cooler near the bay.
715 | Cooler near the lakeshore.
716 | Warmer near the lakeshore.
717 | Not as cold near the lakeshore.
720 | Cooler at the coast.
725 | Cooler at the beaches.
730 | Near record low temperatures.
731 | Record low temperatures expected.
733 | Continued bitterly cold.
735 | Bitterly cold.
740 | Colder in some valley locations.
745 | Cooler.
750 | Cooler and less humid.
751 | Turning cooler and less humid.
755 | Colder.
760 | Much cooler.
765 | Not as hot.
770 | Not as warm.
775 | Turning cooler.
780 | Turning colder.
785 | Much colder.
800 | Humid.
801 | Continued humid.

802 | Warm and humid.
804 | Hot and humid.
806 | Hazy, hot, and humid.
808 | Muggy.
810 | Warmer and more humid.
811 | Continued warm and humid.
812 | Turning warmer and more humid.
814 | Continued hot and humid.
818 | Continued hazy, hot, and humid.
820 | More humid.
825 | Less humid.
901 | Hazy.
902 | Areas of patchy fog.
903 | Areas of patchy fog developing.
904 | Areas of patchy fog early.
905 | Areas of dense fog.
906 | Expect mist and reduced visibilities at times.
907 | Expect mist and reduced visibilities at times early.
908 | Expect mist and reduced visibilities at times late.
910 | Areas of dense morning fog.
911 | Areas of dense fog early.
915 | Areas of morning fog with some patchy drizzle.
920 | Areas of fog with some patchy drizzle.
922 | Areas of fog with some patchy freezing drizzle.
923 | Areas of fog with some patchy freezing drizzle early.
924 | Areas of fog with some patchy freezing drizzle late.
925 | Hazy.
930 | Dense fog near the coast.
932 | Areas of low clouds.
935 | Low clouds and fog lingering along the coast.
937 | Low clouds and fog over high ground.
938 | Low clouds and fog over high ground early.
939 | Low clouds and fog over high ground late.
940 | Low clouds and fog developing along the coast.
941 | Fog and mist over high ground.
942 | Fog and mist over high ground early.
943 | Fog and mist over high ground late.
945 | Dense fog in some valleys.
950 | Areas of dense fog developing late.
955 | Areas of dense fog developing.
965 | Areas of fog developing with patchy drizzle possible.
970 | Areas of freezing fog.
971 | Areas of freezing fog late.
972 | Areas of freezing fog early.
980 | Areas of fog with some snow flurries.
981 | Areas of fog with some snow flurries late.
982 | Areas of fog with some snow flurries early.
1005 | Stronger winds in and below canyons and passes.
1006 | Winds 15-25 mph in and below canyons and passes.
1007 | Winds 25-40 mph in and below canyons and passes.

1008 | Winds 35-50 mph in and below canyons and passes.
1009 | Winds 40-60 mph in and below canyons and passes.
1010 | Stronger winds in mountain passes and near ridge tops.
1011 | Much stronger wind gusts expected over ridges.
1013 | Higher winds expected near the Gorge.
1014 | Areas of blowing snow.
1015 | Coastal flooding possible at high tide.
1016 | Higher wind gusts possible.
1017 | Some blowing and drifting snow.
1018 | Significant blowing and drifting snow.
1020 | Blowing snow with local ground blizzards.
1021 | Winds could occasionally gust over 40 mph.
1022 | Winds could occasionally gust over 50 mph.
1023 | Winds could occasionally gust over 60 mph.
1024 | Winds could occasionally gust over 80 mph.
1025 | Winds could occasionally gust over 100 mph.
1026 | Tropical storm force winds expected.
1027 | Winds could occasionally gust over 70 mph.
1028 | Winds could occasionally gust to hurricane force.
1029 | Watching the tropics.
1030 | Hurricane force winds expected.
1031 | Tropical storm conditions possible.
1032 | Tropical storm conditions likely.
1033 | Hurricane conditions possible.
1034 | Hurricane conditions likely.
1035 | Wind gusts could reach 125 mph.
1036 | Tropical storm or hurricane conditions possible.
1038 | Tropical storm or hurricane conditions likely.
1040 | Wind gusts could reach 140 mph.
1045 | Wind gusts could reach 150 mph.
1050 | Winds could occasionally gust over 40 mph late.
1052 | Winds could occasionally gust over 50 mph late.
1054 | Winds could occasionally gust over 60 mph late.
1056 | Winds could occasionally gust over 70 mph late.
1057 | Winds could occasionally gust over 80 mph late.
1058 | Winds could occasionally gust over 100 mph late.
1060 | Winds could occasionally gust over 40 mph early.
1062 | Winds could occasionally gust over 50 mph early.
1064 | Winds could occasionally gust over 60 mph early.
1066 | Winds could occasionally gust over 70 mph early.
1067 | Winds could occasionally gust over 80 mph early.
1068 | Winds could occasionally gust over 100 mph early.
1075 | Much higher winds possible near point of landfall.
1077 | Much higher winds likely near point of landfall.
2010 | No longer Active
2015 | No longer Active
2020 | No longer Active
2025 | No longer Active
2503 | No longer Active
2504 | No longer Active

2505 | No longer Active
2507 | No longer Active
2510 | No longer Active
2513 | No longer Active
2515 | No longer Active
2520 | No longer Active
2525 | No longer Active
3005 | Scattered frost possible.
3010 | Widespread frost likely.
3015 | Hard freeze expected.
4005 | Areas of blowing dust.
4007 | Locally strong thunderstorm winds with blowing dust.
4009 | Areas of smoke reducing visibilities at times.
4010 | Visibilities reduced by smoke.
4015 | Areas of smoke and haze are possible, reducing visibilities at times.
4020 | Expect widespread areas of smoke and haze, reducing visibilities at times.
5000 | Slight chance of a shower through the evening.
5001 | Slight chance of a shower late.
5002 | A shower is possible early.
5003 | Chance of a morning shower.
5004 | Slight chance of an afternoon shower.
5006 | Patchy drizzle possible through the evening.
5007 | Patchy drizzle possible late.
5009 | Patchy morning drizzle possible.
5012 | Patchy drizzle possible.
5015 | Slight chance of a rain shower.
5020 | Chance of a shower or thunderstorm through the evening.
5025 | Chance of a morning shower or thunderstorm.
5030 | Drizzle ending.
5035 | Showers tapering off.
5036 | A few sprinkles possible.
5037 | A few sprinkles possible late.
5038 | A few sprinkles possible early.
5039 | Precipitation may end as a period of snow.
5040 | Rain or showers ending.
5041 | Localized flooding in recent burn areas.
5042 | Localized flooding is possible.
5043 | Localized flooding is possible in washes.
5044 | Localized flooding is likely in washes.
5045 | Flooding possible in poor drainage areas.
5046 | Localized flooding is expected.
5047 | Significant flooding is expected.
5048 | Flooding is possible in flood prone areas.
5049 | Flooding is likely in flood prone areas.
5050 | Locally heavy rainfall possible.
5053 | Locally heavier rainfall possible.
5054 | Rainfall locally heavier in lake-effect prone areas.
5055 | Locally heavy rainfall possible early.
5056 | Rain and snow melt may lead to flooding.
5058 | Mudslides possible in mountainous terrain.

5060 | Total storm rainfall approaching 4 inches locally.
5063 | Total storm rainfall approaching 6 inches locally.
5066 | Total storm rainfall approaching 8 inches locally.
5070 | Total storm rainfall approaching 10 inches locally.
5075 | Total storm rainfall exceeding 10 inches locally.
7003 | Snow levels rising above 10,000 feet.
7005 | Snow levels rising above 8000 feet.
7010 | Snow levels rising above 7000 feet.
7015 | Snow levels rising above 6000 feet.
7020 | Snow levels rising above 5000 feet.
7025 | Snow levels rising above 4000 feet.
7030 | Snow levels rising above 3000 feet.
7035 | Snow levels rising above 2500 feet.
7040 | Snow levels rising above 2000 feet.
7045 | Snow levels rising above 1500 feet.
7050 | Snow levels rising above 1000 feet.
7055 | Snow levels rising above 500 feet.
7203 | Snow levels above 10,000 feet.
7205 | Snow levels above 8000 feet.
7206 | Snow will accumulate 3-6 inches above 8000 feet.
7207 | Snow will accumulate 6-12 inches above 8000 feet.
7208 | Snow will accumulate a foot or more above 8000 feet.
7210 | Snow levels above 7000 feet.
7211 | Snow will accumulate 3-6 inches above 7000 feet.
7212 | Snow will accumulate 6-12 inches above 7000 feet.
7213 | Snow will accumulate a foot or more above 7000 feet.
7215 | Snow levels above 6000 feet.
7216 | Snow will accumulate 6-12 inches at highest elevations.
7217 | Snow will accumulate a foot or more at the highest elevations.
7220 | Snow levels above 5000 feet.
7225 | Snow levels above 4000 feet.
7230 | Snow levels above 3000 feet.
7235 | Snow levels above 2500 feet.
7240 | Snow levels above 2000 feet.
7245 | Snow levels above 1500 feet.
7250 | Snow levels above 1000 feet.
7255 | Snow levels above 500 feet.
7260 | Snow levels near the valley floors.
7265 | Snow levels near sea level.
7405 | Snow may mix in at higher elevations.
7410 | Snow in the mountains.
7500 | Snow levels lowering below 10,000 feet.
7505 | Snow levels lowering below 8000 feet.
7510 | Snow levels lowering below 7000 feet.
7515 | Snow levels lowering below 6000 feet.
7520 | Snow levels lowering below 5000 feet.
7525 | Snow levels lowering below 4000 feet.
7530 | Snow levels lowering below 3000 feet.
7535 | Snow levels lowering below 2500 feet.
7540 | Snow levels lowering below 2000 feet.

7545 | Snow levels lowering below 1500 feet.
7550 | Snow levels lowering below 1000 feet.
7555 | Snow levels lowering below 500 feet.
7560 | Snow levels lowering to the valley floors.
7565 | Snow may reach the coast in some areas.
7605 | Precipitation ending.
7606 | Sprinkles or flurries possible early.
7607 | Sprinkles or flurries possible late.
7608 | Flurries or freezing drizzle possible early.
7609 | Flurries or freezing drizzle possible late.
7610 | Patchy freezing drizzle possible.
7611 | Patchy freezing drizzle possible early.
7612 | Patchy freezing drizzle possible late.
7615 | Areas of freezing rain possible.
7616 | Areas of freezing rain possible early.
7617 | Areas of freezing rain possible late.
7618 | Some mixed winter precipitation possible early.
7619 | Some mixed winter precipitation possible late.
7620 | Some mixed winter precipitation possible.
7621 | Some rain may mix in late.
7622 | Some rain may mix in early.
7623 | Some rain or sleet may mix in late.
7624 | Some rain or sleet may mix in early.
7625 | Sprinkles or flurries possible.
7626 | Patchy fog and freezing drizzle possible.
7627 | Flurries or freezing drizzle possible.
7628 | Sprinkles or flurries possible early.
7629 | Sprinkles or flurries possible late.
7630 | A shower of rain or wet snow possible.
7631 | A shower of rain or wet snow possible early.
7632 | A shower of rain or wet snow possible late.
7633 | Flurries or snow showers possible late.
7634 | Flurries or snow showers possible early.
7635 | Rain may freeze on some surfaces.
7636 | Snow may mix in late.
7637 | Snow may mix in early.
7638 | Some rain or sleet may mix in late.
7639 | Some rain or sleet may mix in early.
7640 | Rain may start as a period of freezing rain.
7641 | Rain may freeze on elevated surfaces.
7642 | Some icing possible.
7643 | Significant icing possible.
7644 | Significant icing likely.
7645 | Ice accumulation may cause damage.
7646 | Some sleet or freezing rain possible.
7647 | Some sleet or freezing rain possible early.
7648 | Some sleet or freezing rain possible late.
7650 | Ice accumulation will cause damage.
7651 | Some drizzle or freezing drizzle possible late.
7652 | Some drizzle or freezing drizzle possible early.

7653 | Some drizzle or freezing drizzle possible.
7655 | Light wintry mix or sprinkles possible.
7656 | Light wintry mix or sprinkles possible late.
7657 | Light wintry mix or sprinkles possible early.
7660 | Snow or sleet may mix in.
7663 | Snow or sleet may mix in late.
7665 | Snow or sleet may mix in early.
7670 | Precipitation may start as some rain or sleet.
7703 | Some accumulation away from the lake shore.
7704 | Higher accumulation away from the lake shore.
7705 | Heavier amounts in persistent snowbands.
7710 | Heavier amounts in favored snowbelt locales.
7715 | Brief whiteouts in intense snow squalls.
7725 | Thunder possible.
7730 | Snowbands shifting southward.
7735 | Snowbands shifting northward.
7740 | Rapidly changing weather conditions across the area.
7805 | Snow showers and flurries ending.
7810 | Snow ending.
7812 | A few flurries are possible.
7813 | A few flurries possible late.
7814 | A few flurries possible early.
7815 | A few flurries or snow showers possible.
7817 | Flurries or snow showers possible late.
7818 | Flurries or snow showers possible early.
7820 | Some lingering morning flurries or snow showers.
7825 | Some lingering evening flurries or snow showers.
7840 | Precipitation may start as rain.
7841 | Some accumulation possible at higher elevations.
7843 | Some accumulation at higher elevations.
7845 | Some rain may mix in.
7847 | Some rain may mix in late.
7848 | Some rain may mix in early.
7850 | Some rain or sleet may mix in.
7852 | Some rain or sleet may mix in late.
7853 | Some rain or sleet may mix in early.
7855 | Snow may mix in.
7857 | Snow may mix in late.
7858 | Snow may mix in early.
7859 | Snow mixing in.
7860 | Precipitation may start as snow.
7861 | Snow mixing in late.
7862 | Snow mixing in early.
7863 | Some accumulation of wet snow possible on grassy surfaces.
7864 | Some accumulation possible.
7865 | Precipitation may start as some sleet or snow.
7866 | Some sleet may mix in late.
7867 | Some sleet may mix in early.
7868 | A burst of heavy snow expected early.
7869 | A burst of heavy snow expected later on.

7870 | Some sleet may mix in.
7871 | A burst of heavy snow is expected.
7872 | Total storm accumulations 1-3 inches.
7873 | Snow may mix in north and west of the city.
7874 | Snowfall rates of an inch or more per hour.
7875 | Total storm accumulations 2-4 inches.
7876 | Total storm accumulations 3-6 inches.
7879 | Total storm accumulations 5-8 inches.
7880 | Total storm accumulations 6-10 inches.
7881 | Total storm accumulations 8-14 inches.
7882 | Total storm accumulations 8-12 inches.
7883 | Total storm accumulations 10-15 inches.
7885 | Total storm accumulations 12-18 inches.
7888 | Total storm accumulations 16-24 inches.
7889 | Total storm accumulations around 2 feet.
7891 | Total storm accumulations 20-30 inches.
7894 | Total storm accumulations approaching 3 feet.
7897 | Total storm accumulations exceeding 3 feet.
8000 | A stray thunderstorm is possible through the evening.
8001 | A stray shower or thunderstorm is possible.
8002 | Any lingering showers or thunderstorms will end.
8003 | Thunder possible.
8004 | A stray thunderstorm is possible.
8005 | A stray shower or thunderstorm is possible early.
8006 | A stray afternoon thunderstorm is possible.
8007 | Storms will have lightning and gusty winds, but little rain.
8008 | Storms may produce some hail.
8009 | A stray shower or thunderstorm is possible late.
8010 | A few storms may be severe.
8011 | A few storms may be severe late.
8012 | A few storms may be severe early.
8013 | Thunder is possible early.
8014 | Thunder is possible late.
8015 | Storms could contain frequent lightning.
8016 | Nearby thunderstorms may bring lightning and gusty winds.
8018 | A stray severe thunderstorm is possible.
8019 | A stray severe thunderstorm is possible late.
8020 | A stray severe thunderstorm is possible early.
8025 | Storms will produce frequent lightning.
8027 | Heavy downpours and frequent lightning with storms.
8030 | Storms could contain damaging winds.
8035 | Gusty winds and small hail are possible.
8040 | Damaging winds with some storms.
8045 | Storms could contain large hail.
8055 | Large hail in some storms.
8060 | No longer Active
8070 | No longer Active
8075 | Storms may produce large hail and strong winds.
8080 | Damaging winds and large hail with some storms.
8083 | Isolated tornadoes possible.

8084 | Damaging winds, large hail, and possibly a tornado with some storms.
8085 | Storms could contain tornadoes.
8090 | Tornadoes likely in some storms.
9001 | Snow may mix in.
9003 | Potential for some snow accumulation.
9004 | Potential for an inch or two of snow.
9005 | Potential for up to 3 inches of snow.
9010 | Potential for up to 6 inches of snow.
9015 | Potential for 6-12 inches of snow.
9020 | Potential for a foot or more of snow.
9025 | Potential for significant snow accumulation.
9030 | Potential for blizzard conditions.
9040 | Watching a potential winter storm.
9205 | Potential for some icing.
9210 | Potential for significant icing.
9300 | Drought conditions should continue.
9350 | Strong Santa Ana winds possible.
9355 | Winds could gust over 40 mph.
9356 | Winds could gust over 50 mph.
9405 | Potential for heavy rainfall.
9410 | Potential for flooding rains.
9605 | Potential for severe thunderstorms.
9610 | Severe thunderstorms expected.
9800 | Watching the tropics.
9805 | Tropical storm conditions possible.
9810 | Tropical storm conditions likely.
9812 | Tropical storm or hurricane conditions possible.
9813 | Tropical storm or hurricane conditions likely.
9815 | Hurricane conditions possible.
9820 | Hurricane conditions likely.
9825 | Major hurricane conditions possible.
9830 | Major hurricane conditions likely.
5080 | Localized flooding in recent burn areas.
5082 | Localized flooding is possible.
5084 | Localized flooding is possible in washes.
5086 | Localized flooding is likely in washes.
5088 | Flooding possible in poor drainage areas.
5090 | Localized flooding is expected.
5092 | Significant flooding is expected.
5094 | Flooding is possible in flood prone areas.
5096 | Flooding is likely in flood prone areas.
701 | Cool.
830 | Dry and windy with increased fire risk.
835 | Much warmer and less humid from foehn winds.
1080 | Cyclone conditions are possible.
1082 | Cyclone conditions are likely.
1092 | Typhoon conditions are possible.
1094 | Typhoon conditions are likely.
1096 | Super typhoon conditions are possible.
1098 | Super typhoon conditions are likely.

3020 | Icy patches on untreated surfaces.
4025 | Areas of yellow dust and haze are possible.
5057 | Heavy and torrential downpours at times.
7801 | Potential for avalanches.
8017 | Thunder and hail possible.
8029 | Storms may contain strong gusty winds.
8032 | Hail showers possible.
8033 | Hail showers likely.
4008 | Expect dust storm conditions with reduced visibility.
4030 | Wind will cause blowing sand that will reduce visibility.
4035 | Wind will cause blowing spray that will reduce visibility.
4040 | Volcanic ash reducing visibility.
4045 | Ice crystals reducing visibility.
Null | No data.

Lifestyle Indices - Watering Needs - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Watering Needs index indicates the weather's influence on the need to water your lawn or garden.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Watering Needs Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/wateringNeeds/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/wateringNeeds/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxWateringDaypart3
https://api.weather.com/v2/indices/wateringNeeds/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxWateringDaypart5
https://api.weather.com/v2/indices/wateringNeeds/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxWateringDaypart7
https://api.weather.com/v2/indices/wateringNeeds/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxWateringDaypart10
https://api.weather.com/v2/indices/wateringNeeds/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxWateringDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/wateringNeeds/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/wateringNeeds/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxWateringDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Watering Needs Index	wateringNeedsCategory	Descriptive text of Watering Needs Weather Index	[string]		Moderate	N	Display As Provided
	wateringNeedsIndex	Index indicating the need to water your lawn or garden. 0-1=None, 2-4=Low, 5-6=Moderate, 7-9=High, 10=Very High	[integer]	1-10	5	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"wateringNeedsIndex12hour"
: {
"fcstValid": [],                    {//JSON payload},
"fcstValidLocal": [],               {//JSON payload},
"dayInd": [],                       {//JSON payload},
"num": [],                          {//JSON payload},
"daypartName": [],                  {//JSON payload},
"wateringNeedsIndex": [],           {//JSON payload},
"wateringNeedsCategory": []         {//JSON payload},
}
}
```

\

Lifestyle Indices - Power Disruption Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Power Disruption index provides indices indicating the potential for power disruptions due to weather.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Power Disruption Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/powerDisruption/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/powerDisruption/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPowerDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/powerDisruption/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/powerDisruption/daypart/15day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxPowerDaypart15

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided

	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Power Disruption Index	powerDisruptionCategory	Descriptive text of Power Disruption Index	[string]		Low	N	Display As Provided
	powerDisruptionIndex	Index indicating the potential for power disruptions due to weather. 0=none, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"powerDisruptionIndex12hour": {
"fcstValid": [],                    {//JSON payload},
"fcstValidLocal": [],               {//JSON payload},
"dayInd": [],                       {//JSON payload},
"num": [],                          {//JSON payload},
"daypartName": [],                  {//JSON payload},
"powerDisruptionIndex": [],         {//JSON payload},
"powerDisruptionCategory": []       {//JSON payload},
}
}
```

Hourly Forecast - (2 Day, 15 Day) - v3.0

Domain Portfolio: Forecast | Domain: Hourly Forecasts | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Hourly Forecast API is sourced from the The Weather Company (TWC) Forecast system. This TWC API returns weather forecasts starting with the current day. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company. Please refer to the Data Elements section later in this document for more details.
Note: All wind values are calculated based on wind status 10 meters above ground.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

NOTE: Subscribers to the TWC Core Package receive access to the 2 Day Hourly Forecast. Subscribers to the TWC Enhanced Forecast Package receive access to the 15 Day Hourly Forecast

Your content licensing agreement determines the specific endpoint authorized by the API Key entitlements that is provided to your company.

Each time segment duration (2, 15 day) is an atomic API endpoint. Your API key must be authorized for each atomic API endpoint to successfully request a given API endpoint.

- **For example if your API key is authorized for only the 2 Day, and you attempt to request a 15 Day duration, you will get an error stating: "Access Denied".**

Translated Fields:

This TWC API handles the translation of phrases for values of the following data. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- windDirectionCardinal
- wxPhraseLong

Weather Company Data Package	Atomic Endpoints	Aggregate Product Name
Weather Company Data - Core	v3/wx/forecast/hourly/2day	v3-wx-forecast-hourly-2day
Weather Company Data - Enhanced Forecast	v3/wx/forecast/hourly/15day	v3-wx-forecast-hourly-15day

URL Construction

Request by Geocode: Required Parameters: geocode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/hourly/2day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/hourly/15day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/hourly/2day?**iataCode=DEN&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/hourly/15day?**iataCode=DEN&units=e&language=en-US&format=json&apiKey=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/hourly/2day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/hourly/15day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/hourly/2day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/hourly/15day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey**
Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/hourly/2day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/hourly/15day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
cloudCover	Hourly average cloud cover expressed as a percentage.	[integer]	0 to 100	82	N
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	N
dayOrNight	This data field indicates whether it is daytime or nighttime based on the Local Apparent Time of the location. D = Day, N = Night, X = missing (for extreme northern and southern hemisphere	[string]	D, N, X	D	N
expirationTimeUtc	Expiration time in UNIX seconds	[epoch]		1369252800	N
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions.	[integer]		26	N

iconCodeExtend	Code representing full set sensible weather	[integer]		3200	N
precipChance	Hourly maximum probability of precipitation	[integer]	0 to 100	20	N
precipType	The short text describing the expected type accumulation associated with the precipChance parameter.	[string]	rain,snow, precip (‘precip’ = “Any type of precipitation”)	rain	N
pressureMeanSeaLevel	Hourly mean sea level pressure	[decimal]		30.21	N
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) for the upcoming hour. For example, if the local time is 8:35 am, the returned value would represent the timeframe of 9:00 am to 10:00 am. Units - Expressed in inches when units=e, expressed in millimeters when units=m	[decimal]		0.06	N
qpfSnow	The forecasted hourly snow accumulation for the upcoming hour. For example, if the local time is 8:35 am, the returned value would represent the timeframe of 9:00 am to 10:00 am. Units - Expressed in inches when units=e, expressed in centimeters when units=m	[decimal]		0.0	N
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 to 100	83	N
temperature	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.	[integer]	-140 to 140 (F)	68	N
temperatureDewPoint	The temperature to which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dewpoint and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	[integer]	-80 to 100 (°F) or -62 to 37 (°C)	60	N
temperatureFeelsLike	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index. When the temperature is 65°F or higher, the Feels Like value represents the computed Heat Index. When the temperature is below 65°F, Feels Like value represents the computed Wind Chill. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h. Range: -140 to 140	[integer]		84	Y
temperatureHeatIndex	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. Below 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	[integer]		84	N
temperatureWindChill	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. Above 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	[integer]		68	N
uvDescription	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure. -2 = Not Available, -1 = No Report, 0 to 2 = Low, 3 to 5 = Moderate, 6 to 7 = High, 8 to 10 = Very High, 11 to 16 = Extreme	[string]	Not Available, No Report, Low, Moderate, High, Very High, Extreme	Low	N
uvIndex	Hourly maximum UV index	[integer]	-2 to 16	2	N
validTimeLocal	Time forecast is valid in local apparent time.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
validTimeUtc	Time forecast is valid in UNIX seconds	[epoch]		1369306800	N
visibility	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fog and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	[decimal]	0 to 10; For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	5.22	N
windDirection	Hourly average wind direction in magnetic notation.	[integer]	0 to 359	145	N

windDirectionCardinal	Hourly average wind direction in cardinal notation.	[string]	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	N
windGust	The maximum expected wind gust speed.	[integer]		7	Y
windSpeed	The forecast of the sustained wind speed at the top of the hour. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]		5	N
wxPhraseLong	Hourly sensible weather phrase up to 32 characters. Note: The character limit applies to English phrases only. For other languages this phrase may exceed 32 characters.	[string]		Fog Late	N
wxPhraseShort	Hourly sensible weather phrase up to 12 characters.	[string]		Cloudy	Y
wxSeverity	A number denoting how impactful is the forecasted weather for this hour. Can be used to determine the graphical treatment of the weather display such as using red font on weather.com.	[integer]	1 = no threat 6 = dangerous / life threatening	2	N

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
   "v3-wx-forecast-hourly-2day": {
      "cloudCover": [30,45],
      "dayOfWeek": ["Saturday","Saturday"]
      "dayOrNight": ["D","D"],
      “temperatureDewPoint”: [60,100],
      "expirationTimeUtc": [1474132031,1474132031],
      "iconCode": [30,30],
      "iconCodeExtend": [3000,3000],
      "precipChance": [0,0],
      "precipType": ["rain","rain" ],
      "pressureMeanSeaLevel": [30.1,30.07 ],
      "qpf": [0,0 ],
      "qpfSnow": [0,0 ],
      "relativeHumidity": [56,50 ],
      "temperature": [84,86 ],
      "temperatureFeelsLike": [87,89 ],
      "temperatureHeatIndex": [87,89 ],
      "temperatureWindChill": [84,86 ],
      "uvDescription": ["Very High","Very High" ],
      "uvIndex": [8,8 ],
      "validTimeLocal": ["2016-09-17T13:00:00-0400","2016-09-17T14:00:00-0400" ],
      "validTimeUtc": [1474131600,1474135200 ],
      "visibility": [10,10 ],
      "windDirection": [129,137 ],
      "windDirectionCardinal": ["SE","SE" ],
      "windGust": [null,null ],
      "windSpeed": [8,7 ],
      "wxPhraseLong": ["Partly Cloudy","Partly Cloudy" ],
      "wxPhraseShort": ["P Cloudy","P Cloudy" ],
      "wxSeverity": [1,1 ]
```

```
    }
}
```

Watches and Warnings Vector Products - v2

Domain Portfolio: Weather Imagery | Domain: Alerts | API Name:Watches and Warnings - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/643/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/643/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: Watches and Warnings Vector Products

Watches & Warnings have product numbers from 607 to 647, as shown below.

NOTE that not all product numbers in this range are assigned to this use.

NOTE that the alert coverage provided in the **Global** products is limited to those countries with which The Weather Company has an association. A list of those countries can be found in the documentation for **TWC V3 Weather Alerts Headlines API**.

	Severe	Flood	Marine	Winter	Tropical	Other
US	608	609	607	610	612	611
Canada	619	621	630	620	623	622
Europe	628	626	624	625	629	627
Japan	640	639*	637	638	-	641
Global	643	644	642	645	647	646

* 639 is **Japan Flood/Rain**

The provider of the watches and warnings data is The Weather Company's V3 **Weather Alert Detail API**, which provides details for weather watches, warnings, statements, and advisories issued by organizations such as the National Weather Service (NWS), Environment Canada, and MeteoAlarm.

Each alert's subject event is encoded by the combination of its **phenomena** and **significance** values, and the combination may vary depending on the issuing organization, as shown in the example below.

phenomena	significance	Subject Event (Issuing Organization)
TO	A	Tornado Watch (NWS)
TO	W	Tornado Warning (NWS)
tornado	A	Tornado Watch (Environment Canada)
tornada	W	Tornado Watch (Environment Canada)

Events and their encodings, along with alert classifications and a threat-level color scheme, are found in the documentation for the **TWC V3 Weather Alerts Detail API**.

For each product, the JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
adminDistrict	Administrative district name for the subject event's location Ex. Montana
adminDistrictCode	Administrative district code for the subject event's location Ex. MT
alert_details_api	URL for accessing the relevant record in the V3 Weather Alerts Detail API, employing the **detailKey** property as the value for the **alertId** query parameter Ex. https://api.weather.com/v3/alerts/detail?alertId=77128ec9-cebe-46b2-8d72-d1f6860454e7&apiKey={apiKey}&format=json&language=en-US
areaId	Code for the alert's location Ex. MTC035
areaName	Mixed-case name for the alert's location Ex. Glacier
areaTypeCode	Type for the alert's location • **C:** county • **CLC:** Canada location • **Z:** zone
categories	An array of JSON objects categorizing the alert's subject event, where each object contains the following properties **category** • **Geo:** geophysical, including landslide • **Met:** meteorological, including flood • **Safety:** General emergency and public safety • **Security:** Law enforcement, military, homeland, and local/private security

	• **Rescue:** Rescue and recovery • **Fire:** Fire suppression and rescue • **Health:** Medical and public health • **Env:** Environmental, including pollution • **Transport:** Public and private transportation • **Infra:** Utility, telecommunication, and other non-transportation infrastructure • **CBRNE:** Chemical, Biological, Radiological, Nuclear, or High-Yield Explosive threat or attack • **Other** **categoryCode** • **1:** Geo • **2:** Met • **3:** Safety • **4:** Security • **5:** Rescue • **6:** Fire • **7:** Health • **8:** Env • **9:** Transport • **10:** Infra • **11:** CBRNE • **12:** Other
certainty	Certainty text for the alert's subject event • **Observed:** Determined to have occurred or to be ongoing • **Likely:** p > ~50% • **Possible:** possible but not likely; p ≤ ~50% • **Unlikely:** not expected to occur; p ~ 0% • **Unknown**
certaintyCode	Certainty code for the alert's subject event, matching the definitions above • **1:** Observed • **2:** Likely • **3:** Possible • **4:** Unlikely • **5:** Unknown

countryCode	Country code for the alert’s location Ex. US
countryName	Country name for the alert’s location Ex. UNITED STATES OF AMERICA
detailKey	Detail record key for the alert, identical to the **alertId** query parameter used in calls to the V3 Weather Alerts Detail API Ex. 77128ec9-cebe-46b2-8d72-d1f6860454e7
disclaimer	Disclaimer for the alert’s data
effectiveTimeLocal	Effective date and time for the alert’s information, in local time Ex. 2017-10-07T12:30:00-05:00
effectiveTimeLocalTimeZone	Time zone abbreviation for the effective time Ex. EDT
eventDescription	Description of the alert’s subject event Ex. Tornado Warning
eventTrackingNumber	Tracking number for the alert’s subject event; a four-digit number or a checksum Ex. 160
expireTimeLocal	Expiry date and time for the alert’s information, in local time Ex. 2017-10-07T19:30:00-05:00
expireTimeLocalTimeZone	Time zone abbreviation for the expiry time Ex. EDT

expireTimeUTC	Expiry date and time, in UTC Ex. 1373914800
flood	A JSON object with the following properties **floodCrestTimeLocal** Ex. 2017-10-07T21:30:00-05:00 **floodCrestTimeLocalTimeZone** Ex. EDT **floodEndTimeLocal** Ex. 2017-10-07T23:30:00-05:00 **floodEndTimeLocalTimeZone** Ex. EDT **floodImmediateCause** ● **Excessive Rainfall** ● **Snowmelt** ● **Rain and Snowmelt** ● **Dam or Levee Failure** ● **Ice Jam** ● **Glacier-Dammed Lake Outburst** ● **Rain and/or Snowmelt and/or Ice Jam** ● **Upstream Flooding plus Storm Surge** ● **Upstream Flooding plus Tidal Effects** ● **Elevated Upstream Flow plus Tidal Effects** ● **Wind and/or Tidal Effects** ● **Upstream Dam or Reservoir Release** ● **Other Multiple Causes** ● **Other Effects** ● **Unknown**

	floodImmediateCauseCode ● **ER:** Excessive Rainfall ● **SM:** Snowmelt ● **RS:** Rain and Snowmelt ● **DM:** Dam or Levee Failure ● **IJ:** Ice Jam ● **GO:** Glacier-Dammed Lake Outburst ● **IC:** Rain and/or Snowmelt and/or Ice Jam ● **FS:** Upstream Flooding plus Storm Surge ● **FT:** Upstream Flooding plus Tidal Effects ● **ET:** Elevated Upstream Flow plus Tidal Effects ● **WT:** Wind and/or Tidal Effects ● **DR:** Upstream Dam or Reservoir Release ● **MC:** Other Multiple Causes ● **OT:** Other Effects ● **UU:** Unknown **floodLocationId** Ex. SMBM8 **floodLocationName** Ex. Saint Mary River at International Boundary **floodRecordStatus** ● **A record flood is not expected** ● **Near record or record flood expected** ● **Flood without a period of record to compare** ● **For areal flood warnings, areal flash flood products, and flood advisories (point and areal)** **floodRecordStatusCode** ● **NO:** A record flood is not expected ● **NR:** Near record or record flood expected ● **UU:** Flood without a period of record to compare ● **OO:** For areal flood warnings, areal flash flood products, and flood advisories (point and areal)

	floodSeverity ● **None** ● **N/A** ● **Minor** ● **Moderate** ● **Major** ● **Unknown** **floodSeverityCode** ● **N:** None ● **0:** N/A ● **1:** Minor ● **2:** Moderate ● **3:** Major ● **U:** Unknown **floodStartTimeLocal** Ex. 2017-10-07T20:30:00-05:00 **floodStartTimeLocalTimeZone** Ex. EDT
headlineText	Headline text for the alert Ex. Flood Warning until 12:30PM CDT SAT
identifier	Checksum value used to uniquely identify the alert Ex. a463d8adbd563a981673b1beab2b04994e80078a
issueTimeLocal	Date and time the alert was issued, in local time Ex. 2017-10-07T11:30:00-05:00
issueTimeLocalTimeZone	Time zone abbreviation for the issue time

	Ex. CDT
latitude	Latitude of the subject event’s centroid location Ex. 48.65
longitude	Longitude of the subject event’s centroid location Ex. -113.13
messageType	Nature of the alert message ● **New:** Provides initial information ● **Update:** Updates an existing message ● **Cancel:** Cancels an earlier message
messageTypeCode	Message type code, matching the definitions above ● **1:** New ● **2:** Update ● **3:** Cancel
officeAdminDistrict	Administrative district name for the alert’s issuing office Ex. Montana
officeAdminDistrictCode	Administrative district code for the alert’s issuing office Ex. MT
officeCode	Code for the alert’s issuing office Ex. KTFX
officeCountryCode	Country code for the alert’s issuing office Ex. US
officeName	Name for the alert’s issuing office

	Ex. Great Falls
onsetTimeLocal	Onset date and time for the alert's information, in local time; **Canada only** Ex. 2017-10-07T17:30:00-05:00
onsetTimeLocalTimeZone	Time zone abbreviation for the onset time Ex. EDT
phenomena	Phenomena code for the alert's subject event Ex. TO
pollDateTime	Date and time in which the alert was marked by the system's periodic polling process; this value is subsequently used as the **valid-time** for the feature associated with the alert
processTimeUTC	Process time for the alert, for the source TWC system, in UTC Ex. 1475863030000
productIdentifier	Product line identifier Ex. TOR
responseTypes	An array of JSON objects describing the action(s) recommended for the alert's target audience, where each object contains the following properties **responseType** ● **Shelter:** Take shelter in place or take shelter as instructed ● **Evacuate:** Relocate as instructed ● **Prepare:** Make preparations as instructed ● **Execute:** Execute a pre-planned activity as instructed ● **Avoid:** Avoid the subject event as instructed ● **Monitor:** Attend to information sources as instructed ● **Assess:** Evaluate the information in this message; **NOTE** that this value SHOULD NOT be used in public warning applications ● **AllClear:** The subject event no longer poses a threat or concern; take follow-on actions as instructed

	• **None:** No action recommended **responseTypeCode** • **1:** Shelter • **2:** Evacuate • **3:** Prepare • **4:** Execute • **5:** Avoid • **6:** Monitor • **7:** Assess • **8:** AllClear • **9:** None **NOTE** that the responses relate to further instructions, which are found in the relevant alert in the V3 Weather Alerts Detail API. This record key for the alert is found in the **detailKey** property, and the alert can be accessed with the URL found in the **alert_details_api** property. The instructions are found in the JSON response to the API call, specifically in **texts[i].instruction**, that is, the **instruction** property within each JSON object in the **texts** array. The **responseTypes** array and this **texts** array are synchronized, so that any instructions found in **texts[x]** relate to the response in **responseTypes[x]**. Each **instruction** property may be **null**, in which case the response requires no further instructions.
severity	Severity of the alert's subject event • **Extreme:** Extraordinary threat to life or property • **Severe:** Significant threat to life or property • **Moderate:** Possible threat to life or property • **Minor:** Minimal to no known threat to life or property • **Unknown:** Severity unknown
severityCode	Severity code for the alert's subject event, matching the definitions above • **1:** Extreme • **2:** Severe • **3:** Moderate • **4:** Minor • **5:** Unknown

significance	Significance code for the alert's subject event Often, but not always, the significance codes have the following meanings. ● **A:** wAtch ● **B:** Bulletin ● **E:** Emergency ● **M:** Message ● **L:** aLert ● **O:** Outlook ● **S:** Statement ● **W:** Warning ● **Y:** advisorY
source	Originating source of the alert
urgency	Urgency text for the alert ● **Immediate:** Responsive action SHOULD be taken immediately ● **Expected:** Responsive action SHOULD be taken soon (within the next hour) ● **Future:** Responsive action SHOULD be taken in the near future ● **Past:** Responsive action is no longer required ● **Unknown:** Urgency not known
urgencyCode	Urgency code for the alert, matching the definitions above ● **1:** Immediate ● **2:** Expected ● **3:** Future ● **4:** Past ● **5:** Unknown

Lifestyle Indices - Degree Days Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Degree Days index provides the indices for cooling degree days, growing degree days, and heating degree days.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Degree Days - Daily API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/degreeDays/daily/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/degreeDays/daily/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDegreeDaysDaily3
https://api.weather.com/v2/indices/degreeDays/daily/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDegreeDaysDaily5
https://api.weather.com/v2/indices/degreeDays/daily/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDegreeDaysDaily7
https://api.weather.com/v2/indices/degreeDays/daily/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDegreeDaysDaily10
https://api.weather.com/v2/indices/degreeDays/daily/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDegreeDaysDaily15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/degreeDays/daily/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/degreeDays/daily/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxDegreeDaysDaily3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
	num	Daily Segment (24hour)- Forecast valid day number. Day 0 = 1st valid day	[integer]		21	N	Display As Provided
Atomic Indices							
Cooling Degree Days	cdd	Cooling Degree Day, using based temperature of 65F	[integer]	0-100	2	N	Display As Provided
Growing Degree Days	gdd	Growing Degree Day, using base temperature of 50F	[integer]	0-100	5	N	Display As Provided
Heating Degree Days	hdd	Heating Degree Day, using based temperature of 65F	[integer]	0-150	17	N	Display As Provided

JSON Sample

JSON Sample - Daily

```
{
"metadata": {},
"degreeDaysIndex24hour": {      {//JSON payload},
"fcstValid": [],                {//JSON payload},
"fcstValidLocal": [],           {//JSON payload},
"num": [],                      {//JSON payload},
"dow": [],                      {//JSON payload},
"cdd": [],                      {//JSON payload},
"gdd": [],                      {//JSON payload},
"hdd": []                       {//JSON payload},
}
}
```

Lifestyle Indices - Mosquito Activity - v2.0

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Mosquito index indicates the weather's influence on the activity of mosquitoes based on weather conditions.

In the context of this product, seasonality is controlled by making use of both a critical day length factor found to relate to mosquito activity as well as a climatological average minimum temperature threshold.

The weather factors involved include relative humidity, temperature and wind speed. Low wind speeds, high relative humidity and warm, but-not-hot temperatures form weighted contributions.
The index is calculated hour-by-hour, then "rolled up" to create both an "evening mosquito index" (1 per day) and a 2-per-day "daypart" mosquito index (for "daytime" and "nighttime").

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Atomic Endpoints	Aggregate Product Name (requires v3 Aggregate Common Parameter API)
/v2/indices/mosquito/daily/3day	v2idxMosquitoDaily3
/v2/indices/mosquito/daily/5day	v2idxMosquitoDaily5
/v2/indices/mosquito/daily/7day	v2idxMosquitoDaily7
/v2/indices/mosquito/daily/10day	v2idxMosquitoDaily10
/v2/indices/mosquito/daily/15day	v2idxMosquitoDaily15

URL Construction

Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format
https://api.weather.com/v2/indices/mosquito/daily/3day?**geocode=33.74,-84.39**&language=en-US&format=json&**apiKey=yourApiKey**
Request by Postal Code and Country Code: Required Parameters: postalCode, countryCode, language, format
https://api.weather.com/v2/indices/mosquito/daily/3day?**postalCode=94608&countryCode=US**&format=json&language=en-US&**apiKey=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed	Translated	Display
metadata		**object**					
expireTimeGmt	The time to to expire and remove a record from your system	epoch		1548948626	N	N	do not display
language	Response language	string		en-US	N	N	do not display
latitude	Latitude - Rounded to 2 digit decimal by default	decimal	190 to 90	33.65	N	N	do not display
longitude	Longitude - Rounded to 2 digit decimal by default	decimal	-180 to 180	-84.43	N	N	do not display
statusCode	Success or error code. (See Weather Company Data | API I Common Usage Guide for complete list of response status codes)	integer		200	N	N	do not display
transactionId	Transaction ID for internal use	string		1548948051920:755877192	N	N	do not display
version	API version	integer		2	N	N	do not display
mosquitoIndex24hour		**object**					
fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	N	do not display
fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	N	display As Provided
dow	Forecast valid day of week	[string]		Wednesday	N	Y	display As Provided
num	Daily Segment (24hour) - Forecast valid day number. Day 0 = 1st valid day Daypart Segment (12hour) - Sequential daypart number, where 1 = day time of Day 0	[integer]		21	N	N	display As Provided
eveningMosquitoCategory	Descriptive text of Mosquito Index for the evening period between 6pm-10pm local time.	[string]		Very High Activity	N	Y	display As Provided
eveningMosquitoIndex	Index indicating activity of mosquitoes during the 6p-10 pm local time evening hours based on weather conditions. 0=None, 1=Limited Activity, 2=Moderate Activity, 3=High Activity, 4=Very High Activity	[integer]	1-4	4	N	N	display As Provided
mosquitoIndex12hour		**object**					
dayInd	Day / Night Indicator	[string]	D, N	D	N	N	display As Provided
daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Y	display As Provided
fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	N	display As Provided
num	Daily Segment (24hour) - Forecast valid day number. Day 0 = 1st valid day Daypart Segment (12hour) - Sequential daypart number, where 1 = day time of Day 0	[integer]		21	N	N	display As Provided
mosquitoCategory	Descriptive text of Mosquito Index for 2 dayparts, 7am - 7pm, 7pm - 7am.	[string]		Very High Activity	N	Y	display As Provided

mosquitoIndex	Index indicating activity of mosquitoes based on weather conditions. 0=None, 1=Limited Activity, 2=Moderate Activity, 3=High Activity, 4=Very High Activity	[integer]	1-4	4	N	N	display As Provided

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
        metadata: {
                language: "en-US",
                transactionId: "1548948051920:755877192",
                version: "1",
                latitude: 37.84,
                longitude: -122.28,
                expireTimeGmt: 1548948626,
                statusCode: 200
        },
        mosquitoIndex24hour: {
                fcstValid: [
                        1548946800,
                        1549033200
                ],
                fcstValidLocal: [
                        "2019-01-31T07:00:00-0800",
                        "2019-02-01T07:00:00-0800"
                ],
                dow: [
                        "Thursday",
                        "Friday"
                num: [
                        1,
                        2
                ],
                eveningMosquitoIndex: [
                        1,
                        1
                ],
                eveningMosquitoCategory: [
                        "Limited Activity",
                        "Limited Activity"
                ]
        },
        mosquitoIndex12hour: {
                fcstValid: [
                        1548946800,
                        1548990000
                ],
                fcstValidLocal: [
                        "2019-01-31T07:00:00-0800",
                        "2019-01-31T19:00:00-0800"
                ],
                dayInd: [
                        "D",
                        "N"
                num: [
```

```
                                        1,
                                        2
                                ],
                                daypartName: [
                                        "Today",
                                        "Tonight"
                                ],
                                mosquitoIndex: [
                                        1,
                                        1
                                ],
                                mosquitoCategory: [
                                        "Limited Activity",
                                        "Limited Activity"
                                ]
                        }
}
```

Weather Company Data - Core | Site-Based Observations - v1

Domain Portfolio: Observations | Domain: Current Conditions | API Name: Site-Based Observations - v1

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Current Conditions are sourced from physical site-based observation stations. This API returns the latest weather observation for the location supplied to include current temperatures, winds, pressure and other observed weather information. Weather observations are reported from physical devices deployed worldwide (weather data collected from METAR, SYNOP, BUOY, CMAN devices).

Current Condition: Access to retained site-based data will be distributed when requested in Current Conditions data feeds. Observations per station within a 24 hour period varies due to station operation requirements (i.e. modified operating hours, number of observations recorded per hour, maintenance issues, etc). The recent observations data will be continuously updated and replaced with a first-in / first-out methodology, (rotating data with newest observation and moving the oldest observations to the archive storage) based on date/time stamping of the observations. The amount of data retained and available from any given station may be more than a single observation or more than 24 individual observation reports for any given station id. The number of observations is determined by the type of observation it is, i.e. NWS, etc.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- pressure_desc
- uv_desc
- wx_phrase
-

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2obs
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format, units, apiKey=**yourApiKey**		
https://api.weather.com/v1/geocode/34.063/-84.217/observations.json?language=en-US&units=e&apiKey=yourApiKey		
Request by Postal Code: Required Parameters: language, format, units, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>		
https://api.weather.com/v1/location/30075:4:US/observations.json?language=en-US&units=e&apiKey=yourApiKey		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
blunt_phrase	Weather description qualifier short phrase	string		Warmer than yesterday.	Y
class	data identifier	string	default	observation	N
clds	Cloud cover description code	string	SKC, CLR, SCT, FEW, BKN, OVC	SKC	Y
day_ind	Daytime or nighttime of the local apparent time of the location	string	D = Day, N = Night, X = Missing (for extreme northern and southern hemisphere	D	Y
dewpt	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dew Point and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	integer	-80 to 100 (°F) or -62 to 37 (°C)	60	Y
expire_time_gmt	Expiration time in UNIX seconds	epoch		1369252800	N
feels_like	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index.	integer	-140 to 140	60	Y
gust	Wind gust speed. This data field contains information about sudden and temporary variations of the average Wind Speed. The report always shows the maximum wind gust speed recorded during the observation period. It is a required display field if Wind Speed is shown. The speed of the gust can be expressed in miles per hour or kilometers per hour.	integer		35	Y
heat_index	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. When the temperature is 70°F or higher, the Feels Like value represents the computed Heat Index. For temperatures between 40°F and 70°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so use the Temperature value.	integer		70	Y
icon_extd	The four-digit number to represent the observed weather conditions. Refer to the Icon Code, Weather Phrases and Images document	integer		5500	Y
key	Primary data field to group or access data	string	same as observation ID	KATL	N
max_temp	High temperature in the last 24 hours	integer	-140 to 140	81	Y
min_temp	Low temperature in the last 24 hours	integer	-140 to 140	48	Y
obs_id	Observation station ID	string		KATL	N
obs_name	Observation station name	string		Hartsfield-Jackson Airport	N
precip_hrly	Precipitation for the last hour	decimal	0.00 to 99.99	0.5	Y
precip_total	Precipitation amount in the last rolling 24 hour period	decimal	0.00 to 99.99	0.3	Y
pressure	Barometric pressure is the pressure exerted by the atmosphere at the earth's surface, due to the weight of the air. This value is read directly from an instrument called a mercury barometer and its units are expressed in millibars (equivalent to HectoPascals).	double		30.06	Y
pressure_desc	A phrase describing the change in the barometric pressure reading over the last hour.	string	Steady, Rising, Rising Rapidly, Falling,	Steady	Y

			Falling Rapidly		
pressure_tend	The change in the barometric pressure reading over the last hour expressed as an integer.	integer	0 = Steady 1 = Rising or Rising Rapidly 2 = Falling or Falling Rapidly	0	Y
qualifier	Weather description qualifier code	string		QQ0063	Y
qualifier_svrty	Weather description qualifier severity	string	1 (low) to 6 (high)	1	Y
rh	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	integer	0 to 100	91	Y
snow_hrly	Snow increasing rapidly in inches or centimeters per hour depending on whether or not the snowfall is reported by METAR or TECCI (synthetic observations). METAR snow accumulation for the last hour is in inches and TECCI is in centimeters.	decimal	0 to 15	1	Y
temp	The temperature of the air, at the time of the observation, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements.	integer	-140 to 140	62	Y
terse_phrase	Weather description qualifier terse phrase	string		Dangerous wind chills. Limit outdoor exposure.	Y
uv_desc	Ultraviolet index description	string	Extreme, Very High, High, Low, Minimal, Moderate, No Report, Not Available	High	Y
uv_index	Ultraviolet index	integer	0 to 11 and 999	7	Y
valid_time_gmt	Valid time of observation as a Unix epoch value (seconds since start of 1970, UTC)	epoch		1369252800	N
vis	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. Visibilities greater than 10 statute miles(16.1 kilometers) which are considered “unlimited” are reported as “999” in your feed. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	double	0 to 999 or null; For greater than 1 = no decimal. For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	10, 0.25 (Metric) 0.25 (Imperial)	Y
wc	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. When the temperature is 61°F or lower the Feels Like value represents the computed Wind Chill so display the Wind Chill value. For temperatures between 61°F and 75°F, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so display the Temperature value.	integer	Use only if temperature is below 40 degrees Fahrenheit OR below 5 degrees Celsius	-25	Y
wdir	The direction from which the wind blows expressed in degrees. The magnetic direction varies from 1 to 360 degrees, where 360° indicates the North, 90° the East, 180° the South, 270° the West, and so forth. A ‘null’ value represents no determinable wind direction.	integer	1 to 360	45	Y
wdir_cardinal	This field contains the cardinal direction from which the wind blows in an abbreviated form. Wind directions are always expressed as “from whence the wind blows” meaning that a North wind blows from North to South. If you face North in a North wind, the wind is at your face. Face southward and the North wind is at your back.	string	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW, CALM, VAR	ENE	Y
wspd	Wind Speed. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward	integer		15	Y

	and the North wind is at your back.				
wx_icon	The two-digit number to represent the observed weather conditions. Refer to the Icon Code, Weather Phrases and Images document	integer	0 to 48	47	Y
wx_phrase	A text description of the observed weather conditions at the reporting station	string	257 phrases	Mostly sunny	Y
water_temp	Water temperature	integer	25 to 100	80	Y
primary_wave_period	Primary wave period	integer	0-99	13	Y
primary_wave_height	Primary wave height	decimal	0-99.99	3.28	Y
primary_swell_period	Primary swell period	integer	0-99	13	Y
primary_swell_height	Primary swell height	decimal	0-99.99	1.64	Y
primary_swell_direction	Primary swell direction	integer	0 to 359	190	Y
secondary_swell_period	Secondary swell period	integer	0-99	null	Y
secondary_swell_height	Secondary swell height	decimal	0-99.99	null	Y
secondary_swell_direction	Secondary swell direction	integer	0 to 359	null	Y

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1473201321183:-1106734720",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1473207900,
      "status_code": 200
   },
   "observation": {
      "key": "T72227031",
      "class": "observation",
      "expire_time_gmt": 1473207900,
      "obs_id": "T72227031",
      "obs_name": "Duluth",
      "valid_time_gmt": 1473200700,
      "day_ind": "D",
      "temp": 90,
      "wx_icon": 32,
      "icon_extd": 3200,
      "wx_phrase": "Sunny",
      "pressure_tend": 0,
      "pressure_desc": "Steady",
      "dewPt": 54,
```

```
      "heat_index": 88,
      "rh": 29,
      "pressure": 30.18,
      "vis": 10,
      "wc": 90,
      "wdir": 70,
      "wdir_cardinal": "ENE",
      "gust": null,
      "wspd": 1,
      "max_temp": 92,
      "min_temp": 63,
      "precip_total": 0,
      "precip_hrly": 0,
      "snow_hrly": 0,
      "uv_desc": "Low",
      "feels_like": 88,
      "uv_index": 1,
      "qualifier": "OQ0047",
      "qualifier_svrty": "1",
      "blunt_phrase": "Hot.",
      "terse_phrase": "Hot.",
      "clds": "SKC",
      "water_temp": null,
      "primary_wave_period": null,
      "primary_wave_height": null,
      "primary_swell_period": null,
      "primary_swell_height": null,
      "primary_swell_direction": null,
      "secondary_swell_period": null,
      "secondary_swell_height": null,
      "secondary_swell_direction": null
    }
}
```

Weather Company Data | PWS Observations - Current Conditions - v2

Domain Portfolio: Observations | Domain: Current Conditions | API Name: PWS Observations - Current Conditions - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Personal Weather Stations (PWS) Current Conditions returns the current conditions observations for the current record.Current record is the last record reported within 60 minutes. If the station has not reported a current conditions in the past 60 minutes, the response will not return an expired observation record (older than 60 minutes); a 'Data Expired' message will be returned instead.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

***Note Aggregate Product Name not intended for use unless it is in conjuction with one or more additional products.**

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2pwsObsCur*
Request by PWS Station ID: Required Parameters: format, units, apiKey | Optional Parameter: numericPrecision		
https://api.weather.com/v2/pws/observations/current?stationId=KMAHANOV10&format=json&units=e&apiKey=yourApiKey		

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
numericPrecision	decimal	Optional parameter. Set to 'decimal' to ensure data is returned in decimal format when needed. Will return integers if this value is not used.

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
country	Country Code	string		US	Y
epoch	Time in UNIX seconds	epoch		1475157931	Y
humidity	The relative humidity of the air.	integer/decimal		71	Y
lat	Latitude of PWS	decimal	Any valid latitude value. -90 to 90	32.50828934	Y

lon	Longitude of PWS	decimal	Any valid longitude value. -180 to 180	-110.8763962	Y
neighborhood	Neighborhood associated with the PWS location	string		WOW Arizona!	Y
obsTimeLocal	Time observation is valid in local apparent time by timezone - tz	ISO	YYYYY-MM-dd HH:mm:ss	2016-09-29 14:05:31	Y
obsTimeUtc	GMT(UTC) time	ISO	ISO 8601 - yyyy-MM-dd'T'HH:mm:ssZZ	2016-09-29T14:05:31Z	Y
qcStatus	Quality control indicator: -1: No quality control check performed 0: This observation was marked as possibly incorrect by our quality control algorithm 1: This observation passed quality control checks	integer	-1 to 1	1	N
realtimeFrequency	Frequency of data report updates in minutes	integer/decimal		5	Y
softwareType	Software type of the PWS	string		WS-1001 V2.2.9	Y
solarRadiation	Solar Radiation	integer/decimal		92.0	Y
stationID	ID as registered by wunderground.com	string		KAZTUCSO539	N
uv	UV reading of the intensity of solar radiation	integer/decimal		1.2	Y
winddir	Wind Direction	integer/decimal		52	Y
imperial metric metric_si uk_hybrid	Object containing fields that use a defined unit of measure. The object label is dependent on the units parameter assigned in the request. "imperial", "metric", "metric_si", "uk_hybrid"	object		imperial: {.....}	N
dewpt	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dew Point and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	58	Y
elev	Elevation	integer/decimal		3094	Y
heatIndex	Heat Index - An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. When the temperature is 70°F or higher, the Feels Like value represents the computed Heat Index.	integer/decimal		67	Y
precipRate	Rate of precipitation - instantaneous precipitation rate. How much rain would fall if the precipitation intensity did not change for one hour	integer/decimal		0.0	Y
precipTotal	Accumulated precipitation for today from midnight to present.	integer/decimal		0.0	Y
pressure	Mean Sea Level Pressure, the equivalent pressure reading at sea level recorded at this station	integer/decimal		30.06	Y
temp	Temperature in defined unit of measure.	integer/decimal		67	Y
windChill	Wind Chill - An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. When the temperature is 61°F or lower the Feels Like value represents the computed Wind Chill so display the Wind Chill value.	integer/decimal		-34	Y
windGust	Wind Gust - sudden and temporary variations of the average Wind Speed. The report always shows the maximum wind gust speed recorded during the observation period. It is a required display field if Wind Speed is shown.	integer/decimal		56	Y
windSpeed	Wind Speed - The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a	integer/decimal		56	Y

	10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as ""from whence the wind blows"" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.				

JSON Sample


```
{
	observations: [
		{
			stationID: "KNCCARY89",
			obsTimeUtc: "2019-02-04T14:53:14Z",
			obsTimeLocal: "2019-02-04 09:53:14",
			neighborhood: "Highcroft Village",
			softwareType: "GoWunder 1337.9041ac1",
			country: "US",
			solarRadiation: 436.0,
			lon: -78.8759613,
			realtimeFrequency: null,
			epoch: 1549291994,
			lat: 35.80221176,
			uv: 1.2,
			winddir: 329,
			humidity: 71,
			qcStatus: 1,
			imperial: {
				temp: 53,
				heatIndex: 53,
				dewpt: 44,
				windChill: 53,
				windSpeed: 2,
				windGust: null,
				pressure: 30.09,
				precipRate: 0.0,
				precipTotal: 0.0,
				elev: 413
			}
		}
	]
}
```

Lifestyle Indices - Frizz Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Frizz Index provides indices indicating likelihood that a person will experience frizzy hair based on weather conditions.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Frizz - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/frizz/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/frizz/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrizzDaypart3
https://api.weather.com/v2/indices/frizz/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrizzDaypart5
https://api.weather.com/v2/indices/frizz/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrizzDaypart7
https://api.weather.com/v2/indices/frizz/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrizzDaypart10
https://api.weather.com/v2/indices/frizz/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrizzDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/frizz/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/frizz/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxFrizzDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided

Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Frizz Index	frizzCategory	Descriptive text of Frizz Index	[string]		High Concern	N	Display As Provided
	frizzIndex	Index indicating likelihood that a person will experience frizzy hair based on weather conditions. 0-2=Minimal Concern, 3-4=Low Concern, 5-6=Moderate Concern, 7-8=High Concern, 9-10=Very High Concern	[integer]	0-10	8	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"frizzIndex12hour": {
"fcstValid": [],          {//JSON payload},
"fcstValidLocal": [],     {//JSON payload},
"dayInd": [],             {//JSON payload},
"num": [],                {//JSON payload},
"daypartName": [],        {//JSON payload},
"frizzIndex": [],         {//JSON payload},
"frizzCategory": []       {//JSON payload},
}
}
```

U.S. Tidal Predictions - v3

Domain Portfolio: Lifestyle | Domain: Marine | Usage Classification: Standard

Geography: U.S. & Caribbean **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The U.S. Tides API returns marine tide predictions for coastal locations in the United States and its territories. The tidal predictions are generated from harmonic or subordinate tide station/locations. Harmonic locations (also known as reference sites) are generated by regular water level reading sites. Subordinate location predictions derived by applying corrections to a reference tide station. Data is available for the date range of 12 months prior to present date and up to 12 months into the future. Data will not be returned for locations over 60 miles from the coastline.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Atomic Endpoints	Aggregate Product Names
v3/wx/forecast/tides/daily/3day	v3-wx-forecast-tides-daily-3day
v3/wx/forecast/tides/daily/5day	v3-wx-forecast-tides-daily-5day
v3/wx/forecast/tides/daily/10day	v3-wx-forecast-tides-daily-10day
v3/wx/forecast/tides/daily/15day	v3-wx-forecast-tides-daily-15day
v3/wx/forecast/tides/monthly	v3-wx-forecast-tides-monthly

URL Construction

Request by Tidal Station ID: Required Parameters: tide(s), units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?tide=8670870**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**
Request by Geocode: Required Parameters: geocode(s), units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?geocode=30.39,-86.49**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?iataCode=SFO**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?icaoCode=KLGA**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?placeid=dab51f120ae4ee6a0359298f849c29a710c09e4c6b28a45975c5557a21ed1153**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**

Request by Postal Key: Required Parameters: postalKey, units, format, startDay (not used with 'monthly' endpoint), startMonth, startYear, apiKey
https://api.weather.com/v3/wx/forecast/**tides/daily/3day?postalKey=94016:US**&units=e&format=json&**startDay=01&startMonth=10&startYear=2018&apiKey=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
tide	8670870, TEC2847	This field contains the unique tidal station ID. Appears as an integer or alphanumeric string.
startDay	any valid day of the monthly, range 01-31	any valid day of the month, range 01-31
startMonth	any valid month of the year, range 01-12	any valid month of the year, range 01-12
startYear	any valid year	any valid year

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
"tidalForecast"		Object			
adminDistrict	The internationalized identifier for 'state', 'province', or similar geopolitical area - level 1 administrative division.	string	Any valid US state code or International region identifier	Colorado	Y
adminDistrictCode	State, Region, District or Province code - identifier code for 'state', 'province' or similar geopolitical area - level 1 administrative division.	string	Any valid US state code or International region identifier	GA	N
countryCode	ISO country code of the location	string	Any valid ISO country code	US	N
latitude	Latitude of tidal station location.	decimal	Any valid latitude value. -90 to 90	-59.53	N
longitude	Longitude of tidal station location.	decimal	Any valid longitude value. -180 to 180	-113.13	N
stationId	This field contains the unique tidal station ID.	string	Any valid tide station ID, which can contain numbers and letters	8670870, TEC2847	N
tidalStationName	This field contains the presentation name of a tidal station.	string		Crown Point, Mission Bay, California	Y
tideHighAnnualMax	Max height of High Tide predicted for the annual period: in feet or meters	decimal	Feet or meters based on units parameter	7.6	Y
tideLowAnnualMin	Min height of Low Tide predicted for the annual period: in feet or meters	decimal	Feet or meters based on units parameter	1.6	Y
"tidalForecast"		Array			
tideHeight	The Height of the Tide at a particular time in the appropriate unit of measure (UOM) : feet or meters. Datum is derived from MLLW (Mean Lower Low Water)	[decimal]	Feet or meters based on units parameter	6	N

tideId	Tide ID reference number.	[integer]		413	Y
tideType	The type of the tide.	[string]	H=High, L=Low	H	N
validTimeLocal	Time of the Tide in the local time adjusted for Daylight Savings Time (DST)	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
validTimeUtc	Date/time of tide in Unix seconds [number of seconds that have elapsed since January 1, 1970 (midnight UTC/GMT), not counting leap seconds].	[epoch]		1369306800	N

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
  "adminDistrict": "Florida",
  "adminDistrictCode": "FL",
  "countryCode": "US",
  "latitude": 30.4,
  "longitude": -86.51,
  "stationId": "8729511",
  "tidalStationName": "Destin / East Pass",
  "tideHighAnnualMax": 0,
  "tideLowAnnualMin": 0,
  "tidalForecast": {
    "predictionType": [
      "Harmonic",
      "Harmonic",
      "Harmonic",
      "Harmonic",
      "Harmonic",
      "Harmonic",
      "Harmonic",
      "Harmonic"
    ],
    "tideHeight": [
      0.7,
      -0.1,
      0.7,
      -0.1,
      0.7,
      -0.1,
      0.6,
      -0.1
    ],
    "tideId": [
      1,
      2,
      3,
      4,
      5,
      6,
```

```
      7,
      8
    ],
    "tideType": [
      "H",
      "L",
      "H",
      "L",
      "H",
      "L",
      "H",
      "L"
    ],
    "validTimeLocal": [
      "2016-11-30T22:01:00-0600",
      "2016-12-01T09:00:00-0600",
      "2016-12-01T22:36:00-0600",
      "2016-12-02T09:43:00-0600",
      "2016-12-02T23:12:00-0600",
      "2016-12-03T10:23:00-0600",
      "2016-12-03T23:48:00-0600",
      "2016-12-04T10:58:00-0600"
    ],
    "validTimeUtc": [
      1480564860,
      1480604400,
      1480653360,
      1480693380,
      1480741920,
      1480782180,
      1480830480,
      1480870680
    ]
  }
}
```

Lifestyle Indices - Golf Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Golf Index provides an index of golfing weather conditions.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Golf Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/golf/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/golf/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfDaypart3
https://api.weather.com/v2/indices/golf/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfDaypart3
https://api.weather.com/v2/indices/golf/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfDaypart3
https://api.weather.com/v2/indices/golf/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfDaypart3
https://api.weather.com/v2/indices/golf/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfDaypart3
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/golf/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/golf/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxGolfDaypart3
Golf Index - Hourly API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/golf/hourly/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/golf/hourly/24hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly24
https://api.weather.com/v2/indices/golf/hourly/48hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly48

https://api.weather.com/v2/indices/golf/hourly/72hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly72
https://api.weather.com/v2/indices/golf/hourly/120hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly120
https://api.weather.com/v2/indices/golf/hourly/240hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly240
https://api.weather.com/v2/indices/golf/hourly/360hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxGolfHourly360
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/golf/hourly/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/golf/hourly/24hour?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxGolfHourly24

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0 Long - Range - Sequential hour number, where 1 = first available hour of forecast, usually <= 1hr from “now”	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
Unique to Hourly Endpoints	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
Unique to Daypart Endpoints	daypartName	Name of 12hr daypart, not including day names in first 48hrs (Today, Tonight, Tomorrow, Tomorrow Night, Wednesday, Thursday, etc)	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Golf Index	golfCategory	12 Hour - 12hr daypart Golf Category. N/A (null) at NIGHT 1 Hour - Short-Range & Long Range Hourly Golf Category - N/A (null) at NIGHT	[string]		Very Poor	Y	Display As Provided
	golfIndex	12 Hour - 12hr daypart maximum Golf Index. N/A (null) at NIGHT 1 Hour - Short-Range & Long Range Hourly Golf Index - N/A (null) at NIGHT 0-2=Very Poor, 3=Poor, 4-5=Fair, 6-7=Good, 8-9=Very Good, 10=Excellent	[integer]	0-10	1	Y	Display As Provided

JSON Sample

JSON Sample - Hourly	JSON Sample - Daypart

{
"metadata": {},
"golfIndex1hour": { {//JSON payload },
"fcstValid": [], {//JSON payload },
"fcstValidLocal": [], {//JSON payload },
"num": [], {//JSON payload },
"dow": [], {//JSON payload },
"dayInd": [], {//JSON payload },
"golfIndex": [], {//JSON payload or null },
"golfCategory": [] {//JSON payload or null },
}
}
	{
	"metadata": {},
	"golfIndex12hour": {
	"fcstValid": [], {//JSON payload },
	"fcstValidLocal": [], {//JSON payload },
	"dayInd": [], {//JSON payload },
	"num": [], {//JSON payload },
	"daypartName": [], {//JSON payload },
	"golfIndex": [], {//JSON payload or null },
	"golfCategory": [] {//JSON payload or null },
	}
	}

Lifestyle Indices - Heating and Cooling Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Heating and Cooling index provides indices describing the amount of heating/cooling that is required to maintain a comfortable indoor temperature, based on weather conditions.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Heating and Cooling Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/heatCool/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/heatCool/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxHeatCoolDaypart3
https://api.weather.com/v2/indices/heatCool/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxHeatCoolDaypart5
https://api.weather.com/v2/indices/heatCool/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxHeatCoolDaypart7
https://api.weather.com/v2/indices/heatCool/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxHeatCoolDaypart10
https://api.weather.com/v2/indices/heatCool/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxHeatCoolDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/heatCool/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/heatCool/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxHeatCoolDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Heating and Cooling Index	heatingCoolingCategory	Descriptive text of Heating and Cooling Index	[string]		Some Heating for Comfort	N	Display As Provided
	heatingCoolingIndex	Index describing the amount of heating/cooling that is required to maintain a comfortable indoor temperature, based on weather conditions. 0=No Heating or Cooling, 1-2=Little or No Cooling Required, 3-6=Some Cooling for Comfort, 7-8=Cooling May be Necessary, 9-10=Cooling Required, -1to-2=Little or No Heating Required, -3to-6=Some Heating for Comfort, -7to-8=Moderate Heating, -9 to-10=Heating Required	[integer]	-10 to 10	-5	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"heatingCoolingIndex12hour": {
"fcstValid": [],                    {//JSON payload},
"fcstValidLocal": [],               {//JSON payload},
"dayInd": [],                       {//JSON payload},
"num": [],                          {//JSON payload},
"daypartName": [],                  {//JSON payload},
"heatingCoolingIndex": [],          {//JSON payload},
"heatingCoolingCategory": []        {//JSON payload},
}
}
```

Weather Company Data | PWS Daily Summary - 7 Day History - v2

Domain Portfolio: Observations | Domain: Historical | API Name: PWS Daily Summary - 7 Day History - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Personal Weather Station (PWS) Daily Summary Historical Observations returns the daily summary of daily observations for each day's observations report.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Request by Geocode (Latitude & Longitude): Required Parameters: format, units, stationId, apiKey | Optional Parameter: numericPrecision
https://api.weather.com/v2/pws/dailysummary/7day?stationId=KMAHANOV10&format=json&units=e&apiKey=yourApiKey

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
numericPrecision	decimal	Optional parameter. Set to 'decimal' to ensure data is returned in decimal format when needed. Will return integers if this value is not used.

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
epoch	Time in UNIX seconds	epoch		1369252800	Y
humidityAvg	Average Humidity of the period	integer/decimal		32	Y
humidityHigh	Highest Humidity of the period	integer/decimal		32	Y
humidityLow	Lowest Humidity of the period	integer/decimal		32	Y
lat	Latitude of PWS	decimal	Any valid latitude value. -90 to 90	29.8972	Y
lon	Longitude of PWS	decimal	Any valid longitude value. -180 to 180	-97.9362	Y
obsTimeLocal	Time observation is valid in local apparent time by timezone	ISO	YYYYY-MM-dd HH:mm:ss	2016-09-27 00:59:39	Y
obsTimeUtc	GMT(UTC) time	ISO	ISO 8601 - yyyy-MM-dd'T'HH:mm:ssZZ	2016-09-27T06:59:39Z	Y

solarRadiationHigh	Highest Solar Radiation of the period	integer/decimal		947	Y
stationID	ID as registered by wunderground.com	string		KAZTUCSO539	N
tz	Time zone of PWS	string		America/Chicago	Y
uvHigh	Highest UV Index of the period	integer/decimal		2	Y
winddirAvg	Wind direction average of the period	integer/decimal		170	Y
imperial metric metric_si uk_hybrid	Object containing fields that use a defined unit of measure. The object label is dependent on the units parameter assigned in the request. "imperial", "metric", "metric_si", "uk_hybrid"	object		imperial: {.....}	N
dewptAvg	Average dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptHigh	Maximum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptLow	Minimum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
heatindexAvg	Heat index average of the period	integer/decimal		68.2	Y
heatindexHigh	Heat index high temperature of the period	integer/decimal		71.8	Y
heatindexLow	Heat index low temperature of the period	integer/decimal		61.7	Y
precipRate	Rate of precipitation - instantaneous precipitation rate. How much rain would fall if the precipitation intensity did not change for one hour	integer/decimal		0.03	Y
precipTotal	Accumulated Rain for the day in defined unit of measure	integer/decimal		0.03	Y
pressureMax	Highest Barometric pressure in defined unit of measure of the period	integer/decimal		30.12	Y
pressureMin	Lowest Barometric pressure in defined unit of measure of the period	integer/decimal		0.01	Y
pressureTrend	Pressure tendency over the preceding period	integer/decimal		28.09	Y
tempAvg	Temperature average of the period	integer/decimal		72.7	Y
tempHigh	High Temperature of the period	integer/decimal		87.3	Y
tempLow	Low Temperature of the period	integer/decimal		63.7	Y
windchillAvg	Windchill average of the period	integer/decimal		32	Y
windchillHigh	High Windchill temperature of the period	integer/decimal		45	Y
windchillLow	Low Windchill temperature of the period	integer/decimal		35	Y
windgustAvg	Wind gust average of the period	integer/decimal		54	Y
windgustHigh	Highest Wind gust of the period	integer/decimal		56	Y
windgustLow	Lowest Wind gust of the period	integer/decimal		43	Y
windspeedAvg	Wind speed average of the period	integer/decimal		3	Y
windspeedHigh	Highest Wind speed of the period	integer/decimal		5	Y
windspeedLow	Lowest Wind speed of the period	integer/decimal		1	Y

JSON Sample


```
{
  "summaries": [
    {
      "stationID": "KMAHANOV10",
      "tz": "America/New_York",
      "obsTimeUtc": "2016-09-28T03:59:54Z",
      "obsTimeLocal": "2016-09-27 23:59:54",
      "epoch": 1475035194,
      "lat": 42.09263229,
      "lon": -70.86485291,
      "solarRadiationHigh": null,
      "uvHigh": null,
      "winddirAvg": 0,
      "humidityHigh": 97,
      "humidityLow": 77,
      "humidityAvg": 88,
      "metric": {
        "tempHigh": 21,
        "tempLow": 11,
        "tempAvg": 17,
        "windspeedHigh": 0,
        "windspeedLow": 0,
        "windspeedAvg": 0,
        "windgustHigh": 0,
        "windgustLow": 0,
        "windgustAvg": 0,
        "dewptHigh": 18,
        "dewptLow": 9,
        "dewptAvg": 14,
        "windchillHigh": null,
        "windchillLow": null,
        "windchillAvg": null,
        "heatindexHigh": 21,
        "heatindexLow": 12,
        "heatindexAvg": 17,
        "pressureMax": null,
        "pressureMin": null,
        "pressureTrend": null,
        "precipRate": 0,
        "precipTotal": 10.41
      }
    },
  ]
}
```

15 Minute Forecast- v3

Domain Portfolio: Forecast | Domain: Short-Range Forecast | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The 15 Minute Forecast API is a restricted API sourced from the The Weather Company Forecast system. This TWC API returns short-range forecasts in 15 minute intervals over the course of the next 7 hours.
Note: All wind values are calculated based on wind status 10 meters above ground.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- windDirectionCardinal

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3-wx-forecast-fifteenminute
Atomic Request by Geocode: Required Parameters: geocode, units, language, format, apiKey=**yourApiKey**		
https://api.weather.com/v3/wx/forecast/fifteenminute?**geocode=40.58,-111.66**&units=e&language=en-US&format=json&apiKey=**yourApiKey**		
Atomic Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey=**yourApiKey**		
https://api.weather.com/v3/wx/forecast/fifteenminute?**iataCode=DEN**&units=e&language=en-US&format=json&apiKey=**yourApiKey**		
Atomic Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey=**yourApiKey**		
https://api.weather.com/v3/wx/forecast/fifteenminute?**icaoCode=KDEN**&units=e&language=en-US&format=json&apiKey=**yourApiKey**		
Atomic Request by Place ID: Required Parameters: placeid, units, language, format, apiKey=**yourApiKey**		
https://api.weather.com/v3/wx/forecast/fifteenminute?**placeid=25d09bc2d6efa8a2531f0ee4a81cd**&units=e&language=en-US&format=json&apiKey=**yourApiKey**		
Atomic Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey=**yourApiKey**		
https://api.weather.com/v3/wx/forecast/fifteenminute?**postalKey=81657:US**&units=e&language=en-US&format=json&apiKey=**yourApiKey**		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	N
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Current list of icon codes can be found here	[integer]		30	N
iconCodeExtend	Code representing the full set sensible weather.	[integer]		3200	N
precipChance	Maximum probability of precipitation	[integer]	0 to 100	20	N
precipRate	Precipitation rate (units/hour), liquid equivalent, representing how hard the precipitation is expected to fall for the measured timeframe.	[decimal]		0.0	N
precipType	The short text describing the expected type accumulation associated with the Probability of Precipitation (POP) display.	[string]	rain,snow, precip	rain	N
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 to 100	83	N
snowRate	Snowfall rate (units/hour) representing how hard snow is expected to fall for the measured timeframe.	[decimal]		0.0	N
temperature	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.	[integer]	-140 to 140 (F)	68	N
temperatureFeelsLike	Feels like temperature. An apparent temperature. It represents what the air temperature "feels like" on exposed human skin due to the combined effect of the wind chill or heat index.	[integer]	-	84	N
validTimeLocal	Time forecast is valid in local apparent time.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
windDirection	Average wind direction in magnetic notation.	[integer]	0 to 359	145	N
windDirectionCardinal	Average wind direction in cardinal notation.	[string]	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	N
windSpeed	The forecast of the sustained wind speed at the top of the hour. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as "wind gusts" and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]	-	5	N
wxPhraseLong	Sensible weather phrase up to 32 characters.	[string]		Sunny	N
wxPhraseShort	Sensible weather phrase up to 12 characters.	[string]		Sunny	N
wxSeverity	A number denoting how impactful is the forecasted weather for this hour. Can be used to determine the graphical treatment of the weather display such as using red font on weather.com.	[integer]	0 = no threat 1 = threat level increases with the next higher integer 2 = threat level increases with the next higher integer 3 = threat level increases with the next higher integer 4 = threat level increases with the next higher integer 5 = threat level increases with the next higher integer 6 = dangerous / life threatening	2	N

JSON Sample

```
// Response Collapsed for Presentation Purposes
{
        "dayOfWeek":
        ["Monday",],
        " iconCode":
        [30,],
        "iconCodeExtend":
        [3000,],
        "precipChance":
        [0,],
        "precipRate":
        [0.0,],
        "precipType":
        ["rain",],
        "relativeHumidity":
        [60,],
        "snowRate":
        [0.0,],
        "temperature":
        [72,],
        "temperatureFeelsLike":
        [68,],
        "validTimeLocal":
        ["2017-05-01T15:45:00-0600",],
        "windDirection":
        [304,],
        "windDirectionCardinal":
        ["NE",],
        "wxPhraseLong":
        ["Sunny",]
        "wxPhraseShort":
        ["Sunny",]
        "windSpeed":
        [9,],
        "wxSeverity":
        [1,]
}
```

Historical Conditions - Daily Summary - v3.0

Domain Portfolio: Conditions | Domain: Historical | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Historical Conditions are generated from The Weather Company (TWC) Currents On Demand (COD) system. The API provides information on temperature, precipitation and other related weather observations elements as well as date/time, weather icon codes and phrases.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- wxPhraseLongDay
- wxPhraseLongNight

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3-wx-conditions-historical-dailysummary-30day
Request by Geocode: Required Parameters: geocode, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**geocode=<geocode.**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**geocode=33.74,-84.39**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**iataCode=<iataCode>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**iataCode=FCO**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**icaoCode=<icaoCode>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**icaoCode=LIRF**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**placeid=<placeid>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**placeid=25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**postalKey=<postalKey>**&language=<language>&format=<format>&units=<untis>&apiKey**=yourApiKey**		

https://api.weather.com/v3/wx/conditions/historical/dailysummary/30day?**postalKey=30339:US**&language=en-US&format=json&units=e&apiKey**=yourApiKey**

Data Elements & Definitions

Important Notes:

- Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.
- For the purposes of this API, a day is defined as the 24 hour period between 7am local time on the valid day to 7am local time on the following day.
- The current day will be available in the API response shortly after 3pm local time.

Field Name	Description	Type	Range	Sample	Nulls Allowed
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Saturday	Y
iconCodeDay	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	[integer]	0 to 48	30	Y
iconCodeExtendDay	A four digit code representing the full set of sensible weather icons. These codes are companions to iconCodeDay with more specificity.	[integer]	-	3200	Y
iconCodeExtendNight	A four digit code representing the full set of sensible weather icons. These codes are companions to iconCodeNight with more specificity.	[integer]	-	3200	Y
iconCodeNight	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	[integer]	0 to 48	30	Y
precip24Hour	Daily liquid precip amount	[decimal]	-	0.06	Y
rain24Hour	Daily rainfall amount	[decimal]	-	0.6	Y
snow24Hour	Daily snowfall amount	[decimal]	-	0.6	Y
temperatureMax	Daily maximum temperature	[integer]	-140 to 140	73	Y
temperatureMin	Daily minimum temperature	[integer]	-140 to 140	53	Y
validTimeLocal	Time observation is valid ... . in local, but at top of next UTC hour	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2017-01-14T07:00:00-0500	Y
validTimeUtc	Time observation is valid in UNIX epoch value	[epoch]	-	148439520000	Y
wxPhraseLongDay	A text description of the observed weather conditions at the location	[string]	-	Partly Cloudy	Y
wxPhraseLongNight	A text description of the observed weather conditions at the location	[string]	-	Partly Cloudy	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
[
   {
      "id": "33.74,-84.39",
      "v3-wx-conditions-historical-dailysummary-30day": {
                  "dayOfWeek": ["Saturday",...],
                  "iconCodeDay": [30,...],
                  "iconCodeExtendDay": [3001,...],
                  "iconCodeExtendNight": [2900,...],
                  "iconCodeNight": [29,...],
                  "precip24Hour": [0,...],
                  "rain24Hour": [0,...],
                  "snow24Hour": [0,...],
                  "temperatureMax": [86,...],
                  "temperatureMin": [53,...],
                  "validTimeLocal": ["2017-01-14T07:00:00-0500",...],
                  "validTimeUtc": [14843952000,...],
                  "wxPhraseLongDay": ["Partly Cloudy",...],
                  "wxPhraseLongNight": ["Partly Cloudy",...]
   }
]
```

Daily Forecast - (3, 5, 7, 10, 15 Day) - v3.0

Domain Portfolio: Forecast | Domain: Daily Forecasts | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Daily Forecast API is sourced from the The Weather Company Forecast system. This TWC API returns weather forecasts starting on the current day. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company. Please refer to the Data Elements section later in this document for more details.
Note: All wind values are calculated based on wind status 10 meters above ground.

NOTE: Subscribers to the TWC Core Package receive access to the 3,5,7, and 10 Day Forecasts. Subscribers to the TWC Enhanced Forecast Package receive access to the 15 Day Forecast.

Your content licensing agreement determines the specific endpoint authorized by the API Key entitlements that is provided to your company.

Each time segment duration (3, 5, 7, 10, 15) is an atomic API endpoint. Your API key must be authorized for each individual atomic API endpoint to successfully request a given API endpoint.

- **For example if your API key is authorized for only the 5 Day, and you attempt to request a 15 Day duration, you will get an error stating: ”Access Denied”.**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Forecast Composition

The TWC daily forecast product can contain multiple days of daily forecasts for each location. Each day of a forecast can contain up to (2) "temporal segments" and one daily summary forecast, resulting in up to three separate forecasts. For any given forecast day we offer day (7am - 7pm), night (7pm - 7am), and a 24-hour forecast (daily summary). Implementing our forecasts requires your applications to perform basic processing in order to properly ingest the forecast data feeds.

Forecast Implementation

The data values in this API are correctly populated into day and/or night temporal segments and one daily summary forecast. The 24-hour temporal segment is represented by the top-level object. The day and night segments are interlaced within the daypart object.

PLEASE NOTE: The "0th index" of all the fields within the daypart object (i.e. daypart[0].{field}[0]) as well as the temperatureMax field in the top-level object will appear as null in the API after 3:00pm Local Apparent Time. The temperatureMax for the 24-hour temporal segment typically has already occurred at this point in the day and would no longer be a valid forecast. If needed, further details can still be obtained using the **Hourly Forecast - (2 Day, 15 Day)** product. The “calendarDayTemperatureMax” field in the top-level object will continue to display in the API throughout the day.

The daily forecast response will transition at 3:00am Local Apparent Time. At this time, the “0th index” day of the week will transition to the current date, including the Day and Night daypart object pair spanning 7am-7am, and a new day’s forecast will be made available. For example, at 3am on Monday, the prior day’s forecast for Sunday will be removed from the API response. The Monday forecast will then be the “0th index” in the response.

Translated Fields:

This TWC API handles the translation of phrases for values of the following data. When formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- daypartName
- moonPhase
- narrative
- qualifierPhrase
- uvDescription
- windDirectionCardinal
- windPhrase
- wxPhraseLong

Weather Company Data Package	Atomic Endpoints	Aggregate Product Names
Weather Company Data - Core	v3/wx/forecast/daily/3day	v3-wx-forecast-daily-3day
Weather Company Data - Core	v3/wx/forecast/daily/5day	v3-wx-forecast-daily-5day
Weather Company Data - Core	v3/wx/forecast/daily/7day	v3-wx-forecast-daily-7day
Weather Company Data - Core	v3/wx/forecast/daily/10day	v3-wx-forecast-daily-10day
Weather Company Data - Enhanced Forecast	v3/wx/forecast/daily/15day	v3-wx-forecast-daily-15day

URL Construction

Request by Geocode: Required Parameters: geocode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**iataCode=DEN&units=e&language=en-US&&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**iataCode=DEN&units=e&language=en-US&&format=json&apiKey=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey**

https://api.weather.com/v3/wx/forecast/daily/15day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey**

Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey

https://api.weather.com/v3/wx/forecast/daily/7day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey**
https://api.weather.com/v3/wx/forecast/daily/15day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	N
expirationTimeUtc	Expiration time in UNIX seconds	[epoch]		1369252800	N
moonPhase	Description phrase for the current lunar phase	[string]		Waning Gibbous	N
moonPhaseCode	3 character short code for lunar phases	[string]	WNG, WXC, FQ, WNC, LQ, F, WXG, N	WNG	N
moonPhaseDay	Day number within monthly lunar cycle	[integer]	0 through 29	4	N
moonriseTimeLocal	First moonrise in local time. It reflects daylight savings time conventions.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
moonriseTimeUtc	Moonrise time in UNIX epoch value	[epoch]		1369252800	Y
moonsetTimeLocal	First Moonset in local time. It reflects daylight savings time conventions.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
moonsetTimeUtc	Moonset time in UNIX epoch value	[epoch]		1369252800	Y
narrative	The narrative forecast for the 24-hour period. When the max or min temperature is over 100°F or below 0°F, this field will revert to different wording. See the sample section for examples. When the specific temperature is provided rather than a range, the temperature will show along with the unit (°F) .	[string]	Up to 256 characters.	A few thunderstorms possible. Lows overnight in the low 60s. "Mostly sunny. Highs 106 to 110F and lows in the upper 80s." “Some afternoon snow showers, windy. Highs in the low 20s and lows in the low single digits."	N
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) during the 12 or 24 hour period. Units - Expressed in inches when units=e, expressed in millimeters when units=m	[decimal]		0.06	N
qpfSnow	The forecasted measurable precipitation as snow during the 12 or 24 hour forecast period. Units - Expressed in inches when units=e, expressed in centimeters when units=m	[decimal]		1.3	N
sunriseTimeLocal	The local time of the sunrise. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
sunriseTimeUtc	Sunrise time in UNIX epoch value	[epoch]		1369252800	Y
sunsetTimeLocal	The local time of the sunset. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y

sunsetTimeUtc	Sunset time in UNIX epoch value	[epoch]		1369252800	Y
temperatureMax	Daily maximum temperature. This temperature is equivalent to the day daypart temperature.	[integer]		82	Y
temperatureMin	Daily minimum temperature. This temperature is equivalent to the night daypart temperature.	[integer]		59	N
validTimeUtc	Time forecast is valid in UNIX seconds	[epoch]		1369306800	N
validTimeLocal	Time forecast is valid in local apparent time.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
calendarDayTemperatureMax	The midnight to midnight daily maximum temperature for the given day. See appendix for more details.	[integer]		82	Y
calendarDayTemperatureMin	The midnight to midnight daily minimum temperature for the given day. See appendix for more details	[integer]		65	Y
OBJECT: daypart **NOTE: For the purposes of this product day(D) = 7am to 7pm and night(N) = 7pm to 7am**					
cloudCover	Daytime average cloud cover expressed as a percentage.	[integer]	0 - 100	82	Y
dayOrNight	Day or night indicator	[string]	D, N	D	Y
daypartName	The name of a 12 hour daypart not including day names in the first 48 hours.	[string]	Today, Tonight	Today	Y
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions.	[integer]		26	Y
iconCodeExtend	Code representing full set sensible weather	[integer]		3200	Y
narrative	The narrative forecast for the daytime period.	[string]		A few thunderstorms possible. Lows overnight in the low 60s.	Y
precipChance	Maximum probability of precipitation.	[integer]		20	Y
precipType	Type of precipitation to display with the probability of precipitation (pop) data element.	[string]	rain, snow, precip	rain	Y
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) during the 12 hour forecast period.	[decimal]		0.04	Y
qpfSnow	The forecasted measurable precipitation as snow during the 12 hour forecast period.	[decimal]		5.3	Y
qualifierPhrase	A phrase associated to the qualifier code describing special weather criteria.	[string]		Winds could occasionally gust over 70 mph.	Y
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 - 100	83	Y
snowRange	Snow accumulation amount for the 12 hour forecast period.	[string]	<1 - 30+	3-5	Y
temperature	The maximum temperature between 7am and 7pm for daytime temperature and the minimum temperature between 7pm and 7am for nighttime temperature. Minimum temperature also incorporates hourly forecasts up to and including 8am the next morning, to better capture morning lows.	[integer]		81	Y
temperatureHeatIndex	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	[integer]		84	Y
temperatureWindChill	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed.	[integer]		68	Y

	Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.				
thunderCategory	The description of probability thunderstorm activity in an area for 12 hour daypart. 0 = "No thunder"; 1 = "Thunder possible"; 2 = "Thunder expected"; 3 = "Severe thunderstorms possible"; 4 = "Severe thunderstorms likely"; 5 = "High risk of severe thunderstorms"	[string]	0 = "No thunder"; 1 = "Thunder possible"; 2 = "Thunder expected"; 3 = "Severe thunderstorms possible"; 4 = "Severe thunderstorms likely"; 5 = "High risk of severe thunderstorms"	Severe thunderstorms possible	Y
thunderIndex	The enumeration of thunderstorm probability within an area for a 12 hour daypart.	[integer]	0 - 5	3	Y
uvDescription	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure. -2 = Not Available, -1 = No Report, 0 to 2 = Low, 3 to 5 = Moderate, 6 to 7 = High, 8 to 10 = Very High, 11 to 16 = Extreme	[string]	Not Available, No Report, Low, Moderate, High, Very High, Extreme	Low	Y
uvIndex	Maximum UV index for the 12 hour forecast period.	[integer]		2	Y
windDirection	Average wind direction in magnetic notation.	[integer]	0 - 359	148	Y
windDirectionCardinal	Average wind direction in cardinal notation.	[string]	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	Y
windPhrase	The phrase that describes the wind direction and speed for a 12 hour daypart.	[string]		Winds SSE at 5 to 10 mph.	Y
windSpeed	The forecast of the maximum sustained wind speed over the 12 hour forecast period. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the forecast corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]		7	Y
wxPhraseLong	Sensible weather phrase	[string]	Hourly sensible weather phrase up to 32 characters. Note: The character limit applies to English phrases only. For other languages this phrase may exceed 32 characters.	Heavy Rain/Wind	Y
wxPhraseShort	Sensible weather phrase	[string]	Hourly sensible weather phrase up to 12 characters.	Windy	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
        "calendarDayTemperatureMax": [88,88 ],
        "calendarDayTemperatureMin": [70,62 ],
        "dayOfWeek": ["Saturday","Sunday"],
        "expirationTimeUtc": [1474132620,1474132620],
        "moonPhase": ["Waning Gibbous","Waning Gibbous"],
        "moonPhaseCode": ["WXG","WXG"],
        "moonPhaseDay": ["10","11"],
        "moonriseTimeLocal": ["2016-09-17T20:30:02-0400","2016-09-18T21:12:36-0400"],
        "moonriseTimeUtc": [1474158602,1474247556 ],
        "moonsetTimeLocal": ["2016-09-17T08:08:29-0400","2016-09-18T09:16:30-0400 ],
```

```
"moonsetTimeUtc": [1474114109,1474204590 ],
"narrative": ["Mix of sun and clouds. Highs in the upper 80s and lows in the low 70s.","Showers and thunderstorms late. Highs in the upper 80s."],
"qpf": [0,0.2],
"qpfSnow": [0,0 ],
"sunriseTimeLocal": ["2016-09-17T07:21:26-0400","2016-09-18T07:22:05-0400"],
"sunriseTimeUtc": [1474111286,1474197725 ],
"sunsetTimeLocal": ["2016-09-17T19:39:03-0400","2016-09-18T19:37:41-0400" ],
"sunsetTimeUtc": [1474155543,1474241861 ],
"temperatureMax": [88,88 ],
"temperatureMin": [70,71 ],
"validTimeLocal": ["2016-09-17T07:00:00-0400","2016-09-18T07:00:00-0400" ],
"validTimeUtc": [1474110000,1474196400],
"daypart": [
  {
    "cloudCover": [44,63 ],
    "dayOrNight": ["D","N" ],
    "daypartName": [ "Today","Tonight" ],
    "iconCode": [30,29 ],
    "iconCodeExtend": [3000,2900 ],
    "narrative": ["A mix of clouds and sun. High 88F. Winds SE at 5 to 10 mph.","Partly cloudy this evening with more clouds for overnight." ],
    "precipChance": [0,20 ],
    "precipType": [rain,precip ],
    "qpf": [0,0 ],
    "qpfSnow": [0,0 ],
    "qualifierPhrase": [null,"Slight chance of a rain shower." ],
    "relativeHumidity": [48,79 ],
    "snowRange": ["","" ],
    "temperature": [88,70 ],
    "temperatureHeatIndex": [90,86 ],
    "temperatureWindChill": [84,71 ],
    "thunderCategory": ["No thunder","No thunder" ],
    "thunderIndex": [0,0 ],
    "uvDescription": ["Very High","Low" ],
    "uvIndex": [8,0 ],
    "windDirection": [136,159 ],
    "windDirectionCardinal": ["SE","SSE" ],
    "windPhrase": ["Winds SE at 5 to 10 mph.","Winds light and variable." ],
    "windSpeed": [7,3 ],
    "wxPhraseLong": ["Partly Cloudy","Partly Cloudy" ],
    "wxPhraseShort": ["P Cloudy","P Cloudy"]
  }
```

Appendix

Daily Forecast Temperature Max and Min

The daily summary object contains two pairs of temperature maximum and minimum values. They represent the high and low temperatures for the given day in different temporal resolutions.

Field	Description	Temporal Representation
temperatureMax	The daily maximum temperature. This temperature is equivalent to the day daypart temperature.	7:00 AM Local - 7:00 PM Local (12 Hours)
temperatureMin	The daily minimum temperature. This temperature is equivalent to the night daypart temperature.	7:00 PM Local - 7:00 AM Local (12 Hours)
calendarDayTemperatureMax	The midnight to midnight daily maximum temperature for the given day.	12:00 AM Local - 12:00 AM Local (24 Hours)
calendarDayTemperatureMin	The midnight to midnight daily minimum temperature for the given day.	12:00 AM Local - 12:00 AM Local (24 Hours)

Suggested Use

temperatureMax / temperatureMin

When using or displaying the temperature maximum and minimum for a given day, the recommended fields are temperatureMax and temperatureMin. These fields align directly with the day and night daypart objects, including narratives and iconCodes, which will ensure consistency throughout the data elements.

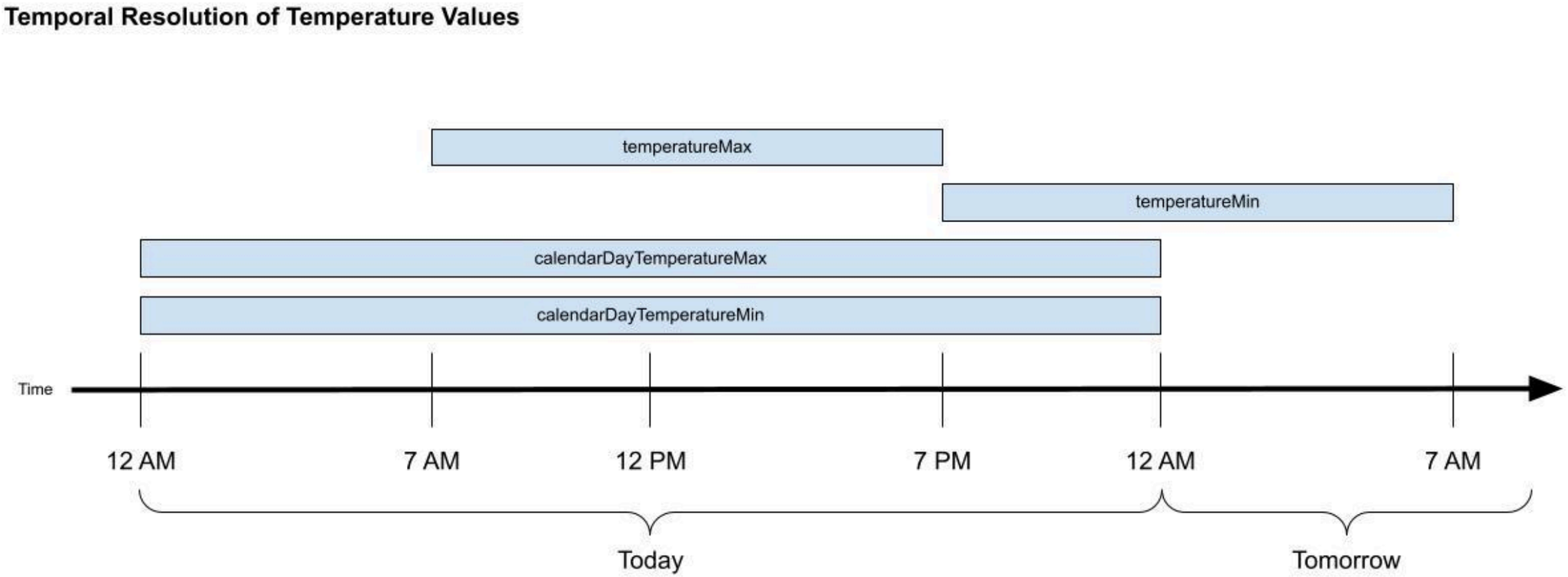
These temperature values are always forward-looking as a forecast. The temperatureMax field represents the daytime high, and the temperatureMin field represents the nighttime low. As such, the temperatureMax and temperatureMin fields are best used to display forecasted maximum and minimum temperatures over multiple days (i.e today's daytime high, tonight's nighttime low, tomorrow's daytime high, tomorrow's nighttime low etc).

calendarDayTemperatureMax / calendarDayTemperatureMin

The calendarDayTemperatureMax and calendarDayTemperatureMin fields encapsulate the absolute high and low temperatures within a calendar day defined by a midnight to midnight time period. These values can provide a high or low temperature that occurred in the past within the provided day. These fields do have limitations. They are unique in that they are the only fields that follow a midnight to midnight definition, rather than the 7-to-7 definition. This does result in some ambiguity as to when the minimum and maximum temperatures will occur within the day, which does not exist with the temperatureMax and temperatureMin fields.

The distinct field pairs should not be used interchangeably as they represent unique values.

Daily Forecast Visual



History on Demand (HoD) - Archive - v3

Domain Portfolio: Conditions | Domain: Historical | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Intent of the History on Demand APIs

The History on Demand (HoD) APIs provide access to global, historical weather data. Historical weather data is prevalent in trend analysis and the training of analytical models pertaining to energy, agriculture, insurance and many other industries. These APIs serve the same data, but allow you to collect that data the way that works best for you. Each has its own style of interaction, allowable query types, delivery mode, and restrictions. Select the API that suits your usage style, desired data format and delivery mechanism. **HoD Archive** (this API) is an asynchronous approach, and **HoD Direct** (the other API) is synchronous. Information common to both is centralized within one document, which is linked, where necessary, from within each respective API document.

The API

HoD Archive is an asynchronous API. Requesting data from this API can be thought of as *creating* a data retrieval job. This is followed by checking on the job's progress, and ultimately retrieving your data from an IBM Cloud Object Storage location you specify. Nearest grid-neighbor geopoint, multi-point, and bounding box query types are available. See the Data Layers section in the HoD Common Information document for details on data layers served by the HoD APIs.

Setup

Using the HoD Archive API's asynchronous interaction model will require some setup for clients. In a synchronous interaction, the data is returned nearly immediately in the response to the GET request that asked for it. In the asynchronous interaction, the request for the data is specified in the first call, and at some later point, the data is prepared and delivered to a predetermined location. That location will be an IBM Cloud Object Storage (COS) bucket the caller owns and maintains. This means that the first setup step is to acquire an IBM Cloud account and set up the COS bucket to be used as a receptacle for data retrieval results. The details of this setup process can be found below in the IBM Cloud Account and Cloud Object Storage setup section. Once the setup is done, and you've acquired an apiKey with which to call the HoD Archive API, the process is relatively simple. You specify the details of the data retrieval you'd like to perform in the body of a POST request, check its status, and examine your results once they've arrived in your bucket.

If you are experiencing difficulty

First, check the Known Issues section of this document, to assess whether what you are experiencing is accounted for there. If not, please send a description of the behavior to support.

Additional Considerations Regarding the Delivered Data

Because your data will be delivered to an IBM Cloud Object Storage bucket that you own, you have the liberty of performing subsequent analysis on that data either with your own tools, or within the IBM Cloud environment. Some data scientists and analysts prefer to download the data to their local platforms and use their own tools. This is simply a reminder that there is an alternative approach. One could upload relevant data to another COS bucket and use IBM Cloud tools like SQL Query Service to perform further analysis extracting relationships between that data and the weather data.

Caching and Content Type

Caching is not used in any way with this API. All API call responses are JSON. The format of the data delivered is dictated by the specification of the retrieval request.

Special Considerations Regarding Your Use of this API

- It is **very important** to understand how this API differs from its synchronous ancestor, and what those differences imply regarding the best way to approach using it. For more, see the Best Practices section.
- We have prepared a Postman Collection for your convenience in interacting with the API. Feel free to download it, and customize it for your needs. The collection contains a sample query to test your configuration. It will verify your COS bucket is visible and writable by the API (has been assigned the correct permissions), your API key has access to the API, and you are able to execute data retrievals and see results arrive in your COS bucket
- If this is your first time accessing the API, we strongly recommend you review the Example API Interaction for a walkthrough in how to use HoD Archive.
- The Data Layers section in the HoD Common Information document describes the data layers currently available in the HoD Archive API.
- The IBM Cloud Account and Cloud Object Storage Setup section describes getting set up to receive data from your queries.
- For a complete understanding of the rules and interpretation on date and date/time expressions sent to the API, see the Date / Time Inputs and Interpretation section in the HoD Common Information document.
- For information on specifying a location (using Well-Known Text) for your data retrieval, see the Location Specification section in the HoD Common Information document.
- For data storage cost concerns, see Data Storage Costs.
- Calls to this API will record usage for your API key, viewable through the /usage endpoint. See the HoD Usage section in the HoD Common Information document.
- If you plan to make very large queries, Parquet is the preferred file type, as it takes up less storage space and takes less time to write than the other file types that are supported.
- The HoD Archive API will apply backpressure. For more information, see Backpressure
- A Frequently Asked Questions document is available for additional questions

Restrictions

- Bounding box queries will be limited to a maximum 45° longitude by 45° latitude
- Result sets will be split up into files of 1 million rows or less.
- The date range for any given query is limited to 5 years, and is limited by the current date and time. This API does not serve forecast data.
- Multi-point queries are limited to sets of 500 points.
- Each caller (each API Key holder) is limited to a configured number of "active" queries. For details, see Backpressure
- HoD Archive Jobs in general are under a constraint imposed by an upstream system which limits the max time a job can compute.
    - This is the reason for the time range and spatial limitations imposed.
    - If the time limit is exceeded, the job will appear to the client to “**error**,” with a status of “**Internal Server Error**.”
    - While we seek to mediate this limitation, it is advisable for clients who see an errored job that had a status of **in_progress** for approximately 1 hour, to retry a job reduced in scope either spatially or temporally.

Known Issues with HoD Archive

- All icon_code data is invalid. The icon_code_extended data is valid, and we do have the translation table, so if icon_code is important to you, please contact support. This will be fixed in the future.
- Jobs will infrequently complete, reporting successful execution, but delivering no data to the specified destination bucket. Retry jobs like this where data was expected. This will be fixed. Contact support with questions.

Recent Improvements

2021-11-10

- Multi-point performance improvement - limitation increased to 500
- Fixed issue where some queries were timing out in under 1 hour
- Fixed rounding issues that made some values, in certain circumstances, differ from HoD Direct query results
- API no longer produces validations of date ranges outside the available data. Instead it simply constrains the query to the available data.

Atomic Endpoints

v3/wx/hod/r1/archive
v3/wx/hod/r1/activity
v3/wx/hod/r1/usage

URL Construction

Request Data (technically "create a data retrieval job"):
Method: POST
Required Request Parameters: apiKey
Required Post Body: location, startDateTime, endDateTime, format, units, resultsLocation
https://api.weather.com/v3/wx/hod/r1/archive?apiKey=**yourApiKey**

https://api.weather.com/v3/wx/hod/r1/archive?apiKey=**yourApiKey** (with POST body as shown below)

POST Body Example:

```
{
  "location": "POINT (44.365 -90.445)",
  "startDateTime": "2016-04-16T00",
  "endDateTime":   "2016-04-17T00",
  "format": "csv",
  "units": "s",
  "resultsLocation": "cos://us-geo/my-bucket/"
}
```

Request Multiple Activity Records:
Method: GET
Required Request Parameters: apiKey
Optional Request Parameters: startDateTime, endDateTime, pageNumber, pageSize, sort
https://api.weather.com/v3/wx/hod/r1/activity?startDateTime=<**startDateTime**>&endDateTime=<**endDateTime**>&pageNumber=<**pageNumber**>&pageSize=<**pageSize**>&sort=<**sort**>&apiKey=**yourApiKey**

https://api.weather.com/v3/wx/hod/r1/activity?startDateTime=2021-01-01T00&endDateTime=2021-03-01T00&pageNumber=0&pageSize=25&sort=submissionTime.desc&apiKey=**yourApiKey**

Request Single Activity Record by Job Id:
Method: GET
Required Request Parameters: jobId, apiKey
https://api.weather.com/v3/wx/hod/r1/activity?jobId=<**jobId**>&apiKey=**yourApiKey**

https://api.weather.com/v3/wx/hod/r1/activity?jobId=d0e0463b-2715-4e41-b03b-f3[...]=&apiKey=**yourApiKey**

For Usage URL construction, see the HoD Usage section in the HoD Usage section in the HoD Common Information document.

Valid Parameter Definitions - Creating a Job

POST /archive JSON POST body elements

Tag	Description	Example JSON tag: value
location	Valid Well-Known-Text spatial geometry representation See Location Specification section in the HoD Common Information document Supports POINT, MULTIPOINT, and BBOX	**“location”: "POINT (-31.427191 -63.982213)"**
startDateTime	The beginning of the analysis period. Must be before endDateTime. **Inclusive.** Several Formats accepted, see Date / Time Inputs and Interpretation	**"startDateTime": "2016-01-01"**
endDateTime	The end of the analysis period.. Must be after startDateTime. **Exclusive.** Several Formats accepted, see Date / Time Inputs and Interpretation	**"endDateTime": "2016-04-01"**
format	The desired format of the resulting data	
	Comma-Delimited Values	**"format": "csv"**
	JSON Lines	**"format": "jsonl"**
	Apache Parquet	**"format": "parquet"**
	Optimized Row-Columnar Format	**"format": "orc"**
	Avro (Schema-based, compressed, binary format)	**"format": "avro"**
units	1 character representing the unit system in which the response should be expressed: e (english/imperial), m (metric), s (SI).	**“units”: “s”**
resultsLocation	valid IBM COS bucket path	**"resultsLocation": "cos://us-geo/my-bucket/"**

Valid Parameter Definitions - Activity

GET /activity?jobId=<jobId>

Parameter	Description	Req	Example
jobId	ID of the job for which activity data is desired. **`jobId`** parameter is stated as not required because if omitted you are essentially making the **`GET/activity`** call below	N	**jobId=d0e0463b-2715-4e41-b03b-f3[…] (UUID)**

GET /activity (multiple)

Note: No parameter is required for activity list, since omission results in default values, and all activity instances

Parameter	Description	Req	Example
startDateTime	The inclusive beginning of the `submissionTime` range from which you would like to see activity history	N	**startDateTime=2021-01-01T00**
endDateTime	The exclusive end of the `submissionTime` range from which you would like to see activity history	N	**endDateTime=2021-03-01T00**
pageNumber	The desired page number with the first page being number 0 (default 0)	N	**pageNumber=0**
pageSize	The maximum number of elements per page (default 20)	N	**pageSize=25**
sort	To sort results, add a sort query parameter with the name of the property followed optionally by a comma (,) plus either asc or desc. By default, results will be sorted in descending (desc) order. To sort the results by more than one property, add an additional sort={property} for each additional property.	N	**sort=submissionTime,desc**

For Usage Valid Parameter Definitions, see the HoD Usage section in the HoD Common Information document.

Data Elements & Definitions

See the Data Elements & Definitions section in the HoD Common Information document for details on the **Gridded Currents on Demand** response. However since the **Activity** endpoint is specific to **HoD Archive**, it is included here.

Multiple Job Activity Call

Field Name	Description	Type	Range	Sample	Nulls Allowed
content	array of query metadata	[array]			
jobId	The ID of the job just submitted via the call	[uuid]	n/a	123e4567-e89b-12d3-a456-426614174000	N
type	Job type (archive only for now, more in the future)	[string]	archive	archive	N
jobStatus	Job Status	[integer]	received, in_progress, complete, error	received	N
location	The WKT submitted as the location in the original query	[string]	n/a	"POINT (1.0 2.0)"	Y
startDateTime	The inclusive start hour of the data block desired	[ISO]	n/a	"2016-04-16T18:00:00+0000"	Y
endDateTime	The exclusive end hour of the data block desired	[ISO]	n/a	"2016-04-17T18:00:00+0000"	Y
format	The output format	[string]	csv, jsonl, parquet, orc, avro	csv	Y
units	Unit system in which output was written	[string]	m: Metric, e: English, s: SI	m	Y
resultsLocation	Location to which the asynchronous result was written	[string]	n/a	"cos://s3.us.cloud-object-storage.appdomain.cloud/my-bucket/weather/2016-04-16/json/jobId=xxxxx"	Y
submissionTime	Time query was submitted	[ISO]	n/a	"2020-11-21T15:19:54+0000"	Y
completionTime	Time query work was completed / result was delivered	[ISO]	n/a	"2020-11-21T15:20:24+0000"	Y
rowsReturned	Number of data rows returned	[integer]	n/a	13140	Y
usage	Usage units calculated (days touched x points)	[integer]	n/a	548	Y
pageable	object detailing paging information	[object]			
totalPages	Total number of pages available	[integer]	n/a	18	N
totalElements	Total number of elements in all pages	[integer]	n/a	35	N
pageNumber	Number of current page	[integer]	n/a	9	N
pageSize	Per-page element limit	[integer]	n/a	2	N
pageElements	Number of elements on current page	[integer]	n/a	2	N
first	Is this the first page	[boolean]	true, false	false	N
last	Is this the last page	[boolean]	true, false	false	N
empty	Is this page empty	[boolean]	true, false	false	N

Single Job Activity Call

Field Name	Description	Type	Range	Sample	Nulls Allowed
(object)	Single object identical to one "content" object entry from above table for Multiple job Activity call	[object]			

For Usage Data Elements & Definitions, see the HoD Usage section in the HoD Common Information document.

Example API Interaction

In this section are some simple examples of the ways you can interact with the API. Note that the **apiKey** parameter would be required in all cases.

Send your data retrieval request.

This is where you will specify the details of the spatial and temporal bounds of the **/archive** data you wish to retrieve.
The "**activeJobs**" section in the response is covered in Backpressure.

REQUEST **POST /archive**	**RESPONSE** Requirements for successful response: bucket specification is valid, API has write permissions to it, all of the other values in the retrieval specification are valid values

Body example:
{
"location": "POINT (44.365 -90.445)",
"startDateTime": "2016-04-16T00",
"endDateTime": "2016-04-17T00",
"format": "csv",
"units": "s",
"resultsLocation": "cos://us-geo/my-bucket/"
}
	{
	"job": {
	"jobId": "(UUID we assign your job)",
	"type": "archive",
	"jobStatus": "received",
	"submissionTime": "2020-11-20T15:21:23+0000"
	},
	"activeJobs": {
	"current": 3,
	"max": (currently configured max at the time)
	}
	}

Check on your retrieval request.

Get the details (including the status) by checking the **`/activity`** on the **`jobId`** you saw in the first response.

REQUEST **`GET /activity?jobId=[UUID we assigned your job]`**	**RESPONSE** (sample)

	{
	"jobId": "(UUID we assign your job)",
	"type": "archive",
	"jobStatus": "complete",
	"location": "POINT (44.365 -90.445)",
	"startDateTime": "2016-04-16T00:00:00+0000",
	"endDateTime": "2016-04-17T00:00:00+0000",
	"format": "csv",
	"units": "s",
	"resultsLocation": "cos://s3.us.cloud-object-storage.appdomain.cloud/my-bucket/jobId=(UUID we assign your job)",
	"submissionTime": "2020-11-20T15:21:23+0000",
	"completionTime": "2020-11-20T15:21:53+0000",
	"rowsReturned": 13140,
	"usage": 548
	}

Retrieve your data

Go to the IBM Cloud Object Storage bucket you specified in the initial request (also reflected in the **`/activity`** response), and you will find the data you requested, in the format you specified, in the folder referenced in the activity response above. The Cloud Object Storage documentation will be helpful in understanding how you can organize, move or download your data from there.

Check the details on your activity

Making a call to that same **`/activity`** endpoint *without* specifying a **jobId** will result in a listing of your interactions with the API. This list can be customized in several ways:

REQUEST **`GET /activity ?startDateTime=2021-01-01T00&endDateTime=2021-03-01T00&pageNumber=0&pageSize=20&sort=submissionTime,desc`**	**RESPONSE** (sample) Response contains a list of **`activity`** objects, followed by a **`pageable`** object containing any paging information you may need to inform subsequent requests. If - in your first request - you sent no **`pageNumber`**, **`pageSize`**, or **`sort`** parameters, the defaults are **`0`**, **`20`**, and **`submissionTime,desc`**, respectively.

	{
	"content": [
	{
	<< Entry identical to single /activity retrieval above >>
	},
	. . .
	],
	"pageable": {
	"totalPages": 7,
	"totalElements": 134,
	"pageNumber": 0,
	"pageSize": 20,
	"pageElements": 20,
	"first": true,
	"last": false,
	"empty": false
	}
	}

For Usage API Interaction, see the HoD Usage section in the HoD Usage section in the HoD Common Information document.

Appendices

Best Practices

Query efficiency: Due to the synchronous nature of HoD Conditions, strict record limitations were put in place, forcing many users to make thousands of calls to complete their data request. With an asynchronous interaction and a 40x increase in performance, these limitations are no longer required in HoD Archive. For reference, retrieving one year of data for a bounding box of 40x40 grid points (25,000 km^2), takes about 8,000 total queries and over 2 hours to complete via the synchronous HoD Conditions API. That same request in the asynchronous HoD Archive API can be done with a single query, taking just over 3 minutes to complete (see table below).

HoD Conditions vs HoD Archive:
Query count and total query time for a 40x40-gridpoint bounding box and one year of data

	Synchronous (previous solution)	**Asynchronous** (new solution)
Query count	8,000	1
Total query time	2h 15m	3m 20s

Therefore, given the asynchronous nature and greater efficiency of the HoD Archive API, you will want to consolidate your data requests into as few queries as possible.

- Example 1: If you were previously making 100 calls for the same point in order to retrieve several years of data, you will now want to reconfigure your query to make one call for that point, over the entire time period you desire.
- Example 2: If you were making requests for several different points over the same time period, you will now want to consider making one request for all points over a given time period, using either a multi-point or bounding box query.

Backpressure and Retry-After: HoD Archive is designed to optimally serve its clients, while fairly and evenly distributing its bandwidth. To ensure this, “backpressure” is applied to the caller to control the production of work, which limits the number of concurrent queries that any one caller can run. Once you have hit the limit, subsequent queries will receive an HTTP 429 Too Many Requests response code, with an advisory Retry-After header indicating the number of seconds you should wait before attempting another call. The best programmatic approach to coding against this API is to simply POST your archive retrieval jobs until you get a **`429`**, then adhere to the advised **`Retry-After`** value, and resume sending. For more details, please see Backpressure.

File Type: Parquet is the preferred file type for very large queries, as they take up less storage space and take less time to write than the other file types that are supported. You are certainly welcome to use whichever file type fits your needs best, but this is something you will want to keep in mind when requesting large amounts of data as it will have an impact on your query efficiency.

IBM Cloud Account and Cloud Object Storage Setup

Sign up for an IBM Cloud account

Begin by creating an IBM Cloud account.

Create an IBM Cloud Object Storage service instance

As discussed above, HoD Archive will deliver the results of a data retrieval job to a Cloud Object Storage bucket owned and maintained by you. Using your IBM Cloud account, you'll need to create a Cloud Object Storage service instance.

Create your HoD Archive results buckets

After adding Cloud Object Storage to your account, you'll need to create one or more buckets which you can then use in a request for HoD Archive to deliver your results to. After creating a bucket, save the name because you'll need it later in this process.

Invite the HoD Archive user to your account

Next, HoD Archive will need permission to write results to your Cloud Object Storage bucket. To accomplish this, you'll first need to invite the HoD Archive user to your account.

1. In your IBM Cloud account, navigate to **Manage** > **Access (IAM)**, and select **Users** on the left.
2. Click **Invite users**.
3. Specify **hdawaupr@us.ibm.com** in the **Enter email addresses** text field.
4. Click **Invite**.
1. **There will be a delay** between the time you invite the user and the time the invite is accepted. Until that time the invite will show as "**Pending**." If this delay seems unreasonably long, please contact support.

Grant the HoD Archive user Writer access to your results bucket

Finally, with the HoD Archive user added to your account, you'll need to grant it permission to write results to one or more buckets in your Cloud Object Storage service instance.

1. In your IBM Cloud account, navigate to **Manage** > **Access (IAM)**, and select **Users** on the left.
2. Select **hdawaupr@us.ibm.com**
3. Select the **Access Policies** tab to assign a new policy.
4. Click **Assign access** to create the new policy.
5. In the dropdown, below "What type of access do you want to assign?" select **Cloud Object Storage** from the services menu.
6. Below "Which services do you want to assign access to?" select **Service based on attributes**.
7. Check the **Service instance** checkbox and select your Cloud Object Storage service instance in the dropdown on the right.
8. Check the **Resource type** checkbox and enter "bucket" (without the quotes) in the text field on the right.
9. Check the **Resource ID** checkbox and enter your bucket name in the text field on the right.
10. Under the "Service access" section check **Writer**.
11. Click **Add**
12. Click **Assign**

Send results to your bucket

To have results delivered to your bucket you'll specify the bucket's URL as the **resultsLocation** in the POST body of an archive data retrieval request. To get a bucket's url, navigate to your IBM Cloud Dashboard's resource list. Under **Storage** select your Cloud Object Storage instance. This should bring you to a listing of your buckets. Clicking the **Actions (3 dots) menu** of a bucket, choose **Access with SQL** and copy the **Object SQL URL** which should be something like `cos://{region}/{bucket-name}`.

To view and download results after they have been delivered, click the bucket name from your bucket listing. From there you can use the Prefix filter to find the results location identified in the activity record for a request.

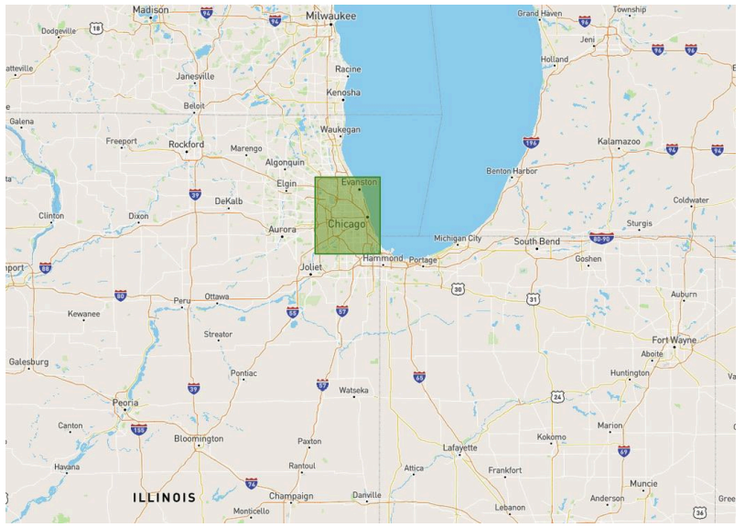
Data Storage Costs

For approximating the amount of storage required for specific query sizes and file output types, we have provided the following examples. Please note that these are estimates only and the final results may vary.

	CSV	JSONL	PARQUET
1 result row	257.995 B	862.094 B	30.261 B
1 hour	257.995 B	862.094 B	30.261 B
1 year	2.261 MB	7.552 MB	265.1 KB

Large City Bounding Box Results Storage

`BBOX ((41.651367 -88.048553), (42.11758 -87.523956))`



	CSV	JSONL	PARQUET
1 result row	242.890 B	840.453 B	19.031 B
1 hour	29.147 KB	100.855 KB	2.284 KB
1 year	255.326 MB	883.484 MB	20.006 MB

The number of grid points / resultant file size for a Bounding Box request is dependent on the latitude range of the request.

Colorado Bounding Box Results Storage

```
BBOX ((37.011326 -109.050293), (41.004775 -102.052002))
```

	CSV	JSONL	PARQUET
1 result row	240.607 B	838.218 B	16.069 B
1 hour	3.482 MB	12.129 MB	232,502 KB
1 year	30.497 GB	106.243 GB	2.036 GB

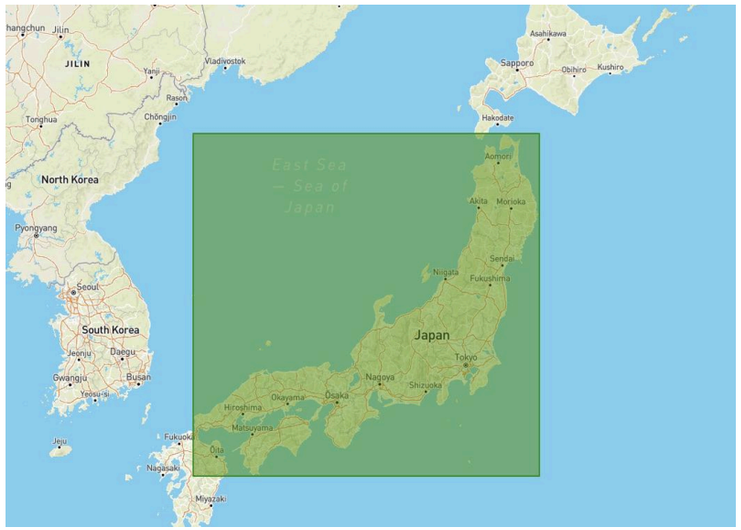
UK Bounding Box Results Storage

```
BBOX ((49.95122 -8.217773), (61.015725 1.757813))
```

	CSV	JSONL	PARQUET
1 result row	238.243 B	833.585 B	13.937 B
1 hour	13.629 MB	47.685 MB	797.254 KB
1 year	119.386 GB	417.716 GB	6.984 GB

Honshu (Japan) Bounding Box Results Storage

```
BBOX ((32.722599 130.852661), (41.5497 142.075195))
```



	CSV	JSONL	PARQUET
1 result row	238.980 B	834.400 B	13.573 B
1 hour	12.297 MB	42.935 MB	698.435 KB
1 year	107.722 GB	376.110 GB	6.119 GB

Backpressure

Definition

HoD Archive is designed to optimally serve all client requests, while fairly and evenly distributing its bandwidth.
In order to do that, the API must ensure that the pace at which it accepts asynchronous requests and submits them for processing is monitored and controlled.
This is referred to as "backpressure" in software design. The optimal way to implement "backpressure" is to control the production of work, or disallow exceeding a certain level of inbound work.

Implementation

The HoD Archive API will maintain limitations on the number of concurrent queries each caller (each API key holder) is able to run.
That limit will be configurable and is subject to change at any time to accommodate changing conditions within the system and the systems upon which it depends.

Example

Each time you POST a retrieval job, you will see a section in the response that details your "**activeJobs**".
This section shows your "**current**" jobs (in `RECEIVED`, `PENDING`, or `IN_PROGRESS` status),
and the "**max**" jobs you are limited to running concurrently.

```
{
  "job": {
    "jobId": "(UUID we assign your job)",
    "type": "archive",
    "jobStatus": "received",
    "submissionTime": "2020-11-20T15:21:23+0000"
  },
  "activeJobs": {
    "current": 3,
    "max": (currently configured max at the time)
  }
}
```

Triggering Backpressure

Once you have hit the limit (**current** = **max**), subsequent queries will receive an HTTP 429 Too Many Requests response code, with an advisory Retry-After header indicating the number of **seconds** you should wait before attempting another call. It is important to note, however, that in the background, your "**current**" queries are being processed. If upon submitting a query, the "**activeJobs**" section shows that you are at capacity, your next query may still be accepted if one of your previous queries completes in the interim.

The "**activeJobs**" section in the response is mainly for humans posting individual jobs manually, using curl or Postman. The best programmatic approach to coding against this API is to simply POST your archive retrieval jobs until you get a **429**, then adhere to the advised **Retry-After** value, and resume sending. There are numerous articles and posts online that illustrate this approach.

Forecast Data for Analytical Tooling - v3 - r2

Domain Portfolio: Forecast | Domain: Analytical | Usage Classification: **Limited Availability**

Geography: **Request by Postal Key:** Australia, Austria, Canada, France, Germany, Great Britain, Italy, Japan, Norway, Switzerland, CONUS

Request by Geocode: Global 4K resolution

Attribution Required: No

Attribution Requirements: N/A

Overview

The Forecast Data for Analytical Tooling API provides aggregated forecast data for use by Data Science teams in performing Predictive Analytics.

Note:

The legacy version of this product can be found here: https://ibm.co/v3rFDfAT

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Details

Predictive models are often trained using the historical counterpart of this API, Historical Data for Analytical Tooling. The data provided by this API consists of the Average, Max and Min values, for each of 7 daily "periods" (expressed in local time relative to the postalKey supplied in the call), for each of 11 weather aspects ("products"), for each day in the hourly forecast data at the time of the call.

More specifically, the forecast data used to compose the aggregations returned by the API is 15 days x 24 hours = 360 hours forward from the moment the call is made. Since 31 hours of data are required to generate the aggregations for any one day (00 hour of that day through and including the 06 hour of the next day), some hourly forecast data at the beginning and/or end of the forecast (where insufficient hourly forecast data is present) may be disregarded. Aggregations will only be provided for days that have sufficient data to do so. See Appendix A: Daily Aggregation Periods for a visualization of these aggregations and the daily periods over which they occur.

The CSV response is formatted such that the first row of data defines the columns for all subsequent values. It is up to the client to determine how to handle entries for which there was no data (e.g. if not all weather products were selected). See: Appendix B: CSV Sample and Appendix C: CSV Column Titles.

The products endpoint can be used to discover valid values for the productId parameter to the data endpoint. Note that the (case-insensitive) word "all" can be used to include all available products in the response.

For periods where there is no data, the data will be represented by an empty field. For averaged time periods, the average is derived from the hourly samples that are collected and does not include periods where there no data is collected. For more, see: Quick Reference and Best Practices.

URL Construction

Atomic API URL Examples:
Data Request by Postal Key: Required Parameters: postalKey, productId, language, units, format, apiKey
https://api.weather.com/v3/wx/forecast/analytical/r2?**postalKey=81657:US&productId=Temperature**&language=en-US&units=s&**format=csv&apiKey=yourApiKey**
Data Request by Geocode: Required Parameters: geocode, productId, language, units, format, apiKey
https://api.weather.com/v3/wx/forecast/analytical/r2?**geocode=42.0,-89.5&productId=Temperature**&language=en-US&units=s&**format=csv&apiKey=yourApiKey**
Product Discovery: Required Parameters: apiKey
https://api.weather.com/v3/wx/forecast/analytical/r2/products?**apiKey=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
geocode	ex: 42.0,-89.5	The GPS coordinates (or the latitude and longitude) of a physical address
postalKey	ex: 81657:US	Colon-delimited Postal code and Country Code combination
productId	Dewpoint, FeelsLike, Gust, MSLP, PrecipAmount, RelativeHumidity, SnowAmount, Temperature, UVIndex, Visibility, WindSpeed	Weather aspect for which aggregate values are to be retrieved. Can be individual (single) product, comma delimited list of multiple products, or the (case-insensitive) word “all” to get them all. Derived from /products endpoint
language	en-US	Only en-US supported at this time
units	e (Imperial/English), m (Metric), s (SI: Système international d'unités)	The unit system in which numerical values should be expressed
format	csv, json	Output format. csv is valid for the /analytical endpoint and json is valid for the /products endpoint

Unit Systems for the weather variables provided by FDAT (which comes from FOD) and comparable HDAT SI units

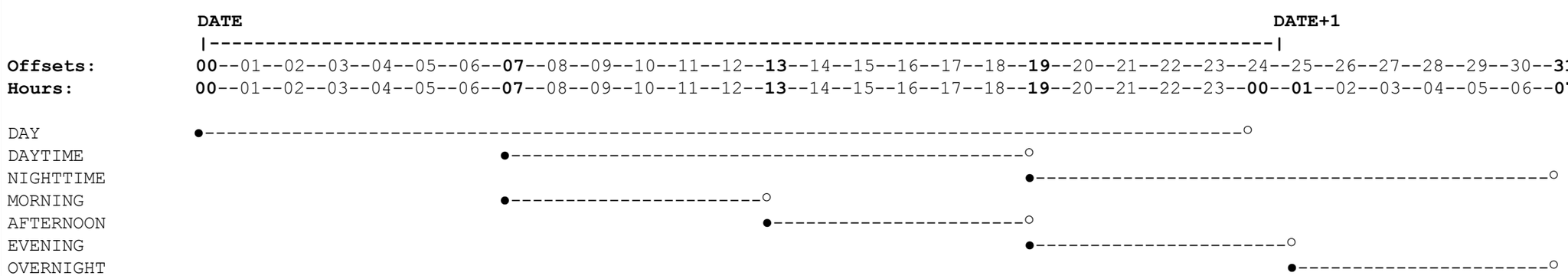
Variable	SI	Metric	English/ Imperial	Comparable HDAT SI unit
Dewpoint	K	℃	℉	K
FeelsLike	K	℃	℉	K
Gust	m/s	km/h	mph	m/s
MSLP	mbar	mbar	Hg	Pa
PrecipAmount	mm	mm	in	mm
RelativeHumidity	%	%	%	%
SnowAmount	cm	cm	in	m
Temperature	K	℃	℉	K
UVIndex	enum	enum	enum	enum
Visibility	km	km	mi	m
WindSpeed	m/s	km/h	mph	m/s

Note on UV Index: values range -2 to 16.

```
-2    Not Available
-1    No Report
0-2   minimal
3-4   low
5-6   moderate
7-9   high
10+   very high
```

Appendix A: Daily Aggregation Periods

"DATE" = DATE the aggregations are referred to as being created for
Below is a depiction of the semantics that both Historical and Forecast Aggregations will use when considering the time ranges for that **"DATE"**



Appendix B: CSV Sample

All numerical data are decimal numbers.

date	postalKey	latitude	longitude	DewpointLocal DayAvg	DewpointLocal DayMax	DewpointLocal DayMin	DewpointLocal DaytimeAvg	DewpointLocal DaytimeMax	DewpointLocal DaytimeMin	DewpointLocal NighttimeAvg	DewpointLocal NighttimeMax	DewpointLocal NighttimeMin	DewpointLocal MorningAvg	DewpointLocal MorningMax	DewpointLocal MorningMin	DewpointLocal AfternoonAvg	DewpointLocal AfternoonMax	Dew fter
2018-09-19	53719:US	43.03095817	-89.51221458	63.875	66	62	63.75	65	62	65.58333333	66	65	62.83333333	63	62	64.66666667	65	
2018-09-20	53719:US	43.03095817	-89.51221458	68.125	71	65	69.41666667	71	66	66.91666667	69	62	68.83333333	70	66	70	71	
2018-09-21	53719:US	43.03095817	-89.51221458	54.95833333	68	45	52.33333333	60	46	44.41666667	47	42	56.16666667	60	53	48.5	52	
2018-09-22	53719:US	43.03095817	-89.51221458	45.83333333	49	42	46.33333333	48	43	48	49	47	45.16666667	47	43	47.5	48	
2018-09-23	53719:US	43.03095817	-89.51221458	52.08333333	56	47	53.16666667	56	47	54.16666667	56	52	51.16666667	54	47	55.16666667	56	
2018-09-24	53719:US	43.03095817	-89.51221458	56.33333333	60	52	56.75	59	52	60.08333333	61	59	55	58	52	58.5	59	
2018-09-25	53719:US	43.03095817	-89.51221458	59.08333333	61	56	58.75	60	56	58	59	56	59.66666667	60	59	57.83333333	60	
2018-09-26	53719:US	43.03095817	-89.51221458	54.29166667	59	49	53.83333333	59	49	48.75	51	46	57	59	55	50.66666667	53	
2018-09-27	53719:US	43.03095817	-89.51221458	46.25	49	43	45.66666667	48	43	45.33333333	46	44	47	48	45	44.33333333	46	
2018-09-28	53719:US	43.03095817	-89.51221458	44.79166667	46	43	44.75	46	43	43.16666667	45	41	45.5	46	43	44	45	
2018-09-29	53719:US	43.03095817	-89.51221458	42.20833333	44	40	42.41666667	44	40	41.16666667	42	40	43.33333333	44	41	41.5	43	
2018-09-30	53719:US	43.03095817	-89.51221458	41.70833333	43	40	41.83333333	43	40	42.66666667	43	42	42.16666667	43	40	41.5	42	
2018-10-01	53719:US	43.03095817	-89.51221458	43.25	45	42	43.58333333	45	42	43.08333333	44	42	44.16666667	45	42	43	44	
2018-10-02	53719:US	43.03095817	-89.51221458	44.29166667	46	42	45	46	43	43.83333333	45	42	45.16666667	46	43	44.83333333	46	

Appendix C: CSV Column Titles

The CSV columns are: date, postalKey, latitude, longitude, followed by the distribution of the requested weather aspects over 7 aggregation periods over 3 aggregation values (Avg, Max, Min). Note: All columns with the time period of 'LocalDay' record a 'day' from midnight to midnight. All other columns represent a 'day' as 7 am to 7 am. There will always be the 1st 5 columns of:

```
date, geoType, geoTypeId, latitude, longitude
```

followed by columns named by the "word product" of: `[Weather Variable] x "Local" x [Day Part Title] x ["Avg" | "Max" | "Min"]`

So, if you only specified productId=Dewpoint, the column titles of the resulting csv (following the 1st 5 above) would be:

```
DewpointLocalDayAvg,        DewpointLocalDayMax,        DewpointLocalDayMin,
DewpointLocalDaytimeAvg,    DewpointLocalDaytimeMax,    DewpointLocalDaytimeMin,
DewpointLocalNighttimeAvg,  DewpointLocalNighttimeMax,  DewpointLocalNighttimeMin,
DewpointLocalMorningAvg,    DewpointLocalMorningMax,    DewpointLocalMorningMin,
DewpointLocalAfternoonAvg,  DewpointLocalAfternoonMax,  DewpointLocalAfternoonMin,
DewpointLocalEveningAvg,    DewpointLocalEveningMax,    DewpointLocalEveningMin,
DewpointLocalOvernightAvg,  DewpointLocalOvernightMax,  DewpointLocalOvernightMin
```

Historical Conditions - Hourly - v3.0

Domain Portfolio: Conditions | Domain: Historical | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Weather Historical Conditions are generated on demand from The Weather Company (TWC) Currents On Demand (COD) system. The API provides information on temperature, precipitation, wind, barometric pressure, visibility, ultraviolet (UV) radiation, and other related weather observations elements as well as date/time, weather icon codes and phrases.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- windDirectionCardinal
- pressureTendencyTrend
- wxPhraseLong
- uvDescription

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3-wx-conditions-historical-hourly-1day
Atomic Request by Geocode: Required Parameters: geocode, units, language, format **| Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**geocode=<geocode>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**geocode=33.74,-84.39**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Atomic Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey **| Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**iataCode=<iataCode>**&language=<language>&format=<format>&units=<unit>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**iataCode=FCO**&language=en-US&format=json&units=e&apiKey=**yourApiKey**		
Atomic Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey **| Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**icaoCode=<icaoCode>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**icaoCode=LIRF**&language=en-US&format=json&units=e&apiKey**=yourApiKey**		
Atomic Request by Place ID: Required Parameters: placeid, language, format, apiKey **| Optional Parameter:** par https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**placeid=<placeid>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**		
https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**placeid=25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd**&language=en-US&format=json&units=e&apiKey=**yourApiKey**		

Atomic Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey=**yourApiKey** | **Optional Parameter:** par
https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**postalKey=<postalKey>**&language=<language>&format=<format>&units=<units>&apiKey**=yourApiKey**

https://api.weather.com/v3/wx/conditions/historical/hourly/1day?**postalKey=30339:US**&language=en-US&format=json&units=e&apiKey**=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
cloudCeiling	Base of lowest Mostly Cloudy or Cloudy layer. Note: This field can be NULL for any geographic location depending weather conditions	[integer]	Base of lowest Mostly Cloudy or Cloudy layer Note: This field can be NULL for any geographic location depending weather conditions	1200	Y
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	Y
dayOrNight	Daytime or nighttime of the local apparent time of the location	[string]	D = Day, N = Night, X = Missing (for extreme northern and southern hemisphere	D	Y
expirationTimeUtc	Expiration time in UNIX in UNIX epoch value	[epoch]	-	1369252800	Y
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions.	[integer]	0 to 47	30	Y
iconCodeExtend	A four digit code representing the full set of sensible weather icons. These codes are companions to iconCode with more specificity. **Note**: Reserved for internal purposes only.	[integer]	-	3200	Y
precip24Hour	Liquid precip amount in the last 24 hours. **Note:** Arrival of new, refined data inputs may cause output values to change throughout a given day	[decimal]	-	0	Y
pressureAltimeter	Barometric pressure is the pressure exerted by the atmosphere at the Earth's surface due to the weight of the air. Expressed in inches of mercury when units=a (i.e. units='US'), expressed in millibars when units=Metric, Hybrid or Metric_SI	[decimal]	Inches of mercury, precise to hundredths… Precision to tenths when in millibars	30.18	Y
pressureChange	Change in pressure in the last three hours (inches of mercury for units=US, millibars otherwise)	[decimal]	-	-0.03	Y
pressureMeanSeaLevel	Mean sea level pressure in millibars	[decimal]	Millibars, precise to 1/10th mb	1022.4	Y
pressureTendencyCode	Code of pressure tendency. 0 = steady, 1 = rising, 2 = falling, 3 = rising rapidly, 4 = falling rapidly	[integer]	0 - 4	0	Y
pressureTendencyTrend	Descriptive text of pressure tendency over the past three hours.	[string]	Steady, Rising, Rapidly Rising, Falling, Rapidly Falling	Steady	Y
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 to 100	55	Y
snow24Hour	Snowfall amount in the last 24 hours. **Note:** Arrival of new, refined data inputs may cause output values to change throughout a given day	[decimal]	-	0	Y
sunriseTimeLocal	This field contains the local time of the sunrise. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
sunriseTimeUtc	Sunrise time in UNIX epoch value	[epoch]	-	1369252800	Y

sunsetTimeLocal	This field contains the local time of the sunset. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
sunsetTimeUtc	Sunset time in UNIX epoch value	[epoch]	-	1369252800	Y
temperature	Temperature in defined unit of measure	[integer]	-140 to 140	74	Y
temperatureChange24Hour	Change in temperature compared to the report 24 hours ago.	[integer]	-	-26	Y
temperatureDewPoint	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dew Point and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	[integer]	-80 to 100 (°F) or -62 to 37 (°C)	60	Y
temperatureFeelsLike	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index. When the temperature is 65°F or higher, the Feels Like value represents the computed Heat Index. When the temperature is below 65°F, the Feels Like value represents the computed Wind Chill. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h. Range is -140 to 140	[integer]	-140 to 140	101	Y
temperatureHeatIndex	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. Below 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	[integer]	-	98	Y
temperatureMax24Hour	Max temperature in the last 24 hours	[integer]	-	65	Y
temperatureMaxSince7Am	Max temperature since 7 A.M.	[integer]	-	65	Y
temperatureMin24Hour	Min temperature in the last 24 hours	[integer]	-	65	Y
temperatureWindChill	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. Above 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h	[integer]	-	-34	Y
uvDescription	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure. -2 = Not Available, -1 = No Report, 0 to 2 = Low, 3 to 5 = Moderate, 6 to 7 = High, 8 to 10 = Very High, 11 to 16 = Extreme	[string]	Not Available, No Report, Low, Moderate, High, Very High, Extreme	Low	Y
uvIndex	TWC-created UV index	[integer]	0 to 11	6	Y
validTimeLocal	Time observation is valid ... . in local, but at top of next UTC hour	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
validTimeUtc	Time observation is valid in UNIX epoch value	[epoch]	-	1369252800	Y
visibility	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. Visibilities greater than 10 statute miles(16.1 kilometers) which are considered “unlimited” are reported as “999” in your feed. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	[decimal]	0 to 999 or null; For greater than 1 = one decimal. For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	10.2	Y
windDirection	The direction from which the wind blows expressed in degrees. The magnetic direction varies from 0 to 359 degrees, where 0° indicates the North, 90° the East, 180° the South, 270° the West, and so forth.	[integer]	0<=wind_dire_deg<=350, in 10 degree interval	60	Y
windDirectionCardinal	This field contains the cardinal direction from which the wind blows in an abbreviated form. Wind	[string]	N, NNE, NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW,	ENE	Y

	directions are always expressed as “from whence the wind blows” meaning that a North wind blows from North to South. If you face North in a North wind, the wind is at your face. Face southward and the North wind is at your back.		NW, NNW, CALM		
windGust	This data field contains information about sudden and temporary variations of the average Wind Speed. The report always shows the maximum wind gust speed recorded during the observation period. It is a required display field if Wind Speed is shown.	[integer]	-	28	Y
windSpeed	The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]		8	Y
wxPhraseLong	A text description of the observed weather conditions at the location	[string]		Partly Cloudy	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
[
   {
      "id": "33.74,-84.39",
      "v3-wx-conditions-historical-hourly-1day": {
                “cloudCeiling”:[1200...],
                "dayOfWeek": ["Saturday",...],
                "dayOrNight": ["D",...],
                "expirationTimeUtc": [1474132031,...],
                "iconCode": [30,...],
                "iconCodeExtend": [3000,...],
                "precip24Hour": [0,...],
                "pressureAltimeter": [30.14,...],
                "pressureChange": [-0.05,...],
                "pressureMeanSeaLevel": [1020.6,...],
                "pressureTendencyCode": [2,...],
                "pressureTendencyTrend": ["Falling",...],
                "relativeHumidity": [51,...],
                "snow24Hour": [0,...],
                "sunriseTimeLocal": ["2016-09-17T07:21:26-0400",...],
                "sunriseTimeUtc": [1474111286,...],
                "sunsetTimeLocal": ["2016-09-17T19:39:03-0400",...],
                "sunsetTimeUtc": [1474155543,...],
                "temperature": [86,...],
                "temperatureChange24Hour": [-2,...],
                "temperatureDewPoint": [66,...],
                "temperatureFeelsLike": [89,...],
                "temperatureHeatIndex": [89,...],
                "temperatureMax24Hour": [90,...],
                "temperatureMaxSince7Am": [86,...],
                "temperatureMin24Hour": [67,...],
                "temperatureWindChill": [86,...],
                "uvDescription": ["High",...],
                "uvIndex": [7,...],
                "validTimeLocal": ["2016-09-17T12:45:00-0400",...],
                "validTimeUtc": [1474130700,...],
                "visibility": [10,...],
                "windDirection": [110,...],
                "windDirectionCardinal": ["ESE",...],
                "windGust": [null,...],
                "windSpeed": [9,...],
                "wxPhraseLong": ["Partly Cloudy",...]
   }
]
```

Currents On Demand - v3.0

Domain Portfolio: Conditions | Domain: Current Conditions | Usage Classification: Standard

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Weather Current Conditions are generated on demand from The Weather Company (TWC) Currents On Demand (CoD) system. CoD is a system that, at request time, assimilates a variety of meteorological inputs to derive a current condition value precise to the requested location on the Earth's surface. The meteorological inputs include physical surface observations, radar, satellite, lightning and short-term forecast models. The CoD system spatially and temporally blends each input appropriately at request-time, producing a result that improves upon any individual input used on its own.

The CoD data feed returns a similar set of data elements as traditional site-based observations. The API provides information on temperature, precipitation, wind, barometric pressure, visibility, ultraviolet (UV) radiation, and other related weather observations elements as well as date/time, weather icon codes and phrases. The CoD system is gridded across the globe at a 4KM geocode resolution.

Note: All wind values are calculated based on wind status 10 meters above ground.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	**Aggregate Product Name (requires v3 Aggregate Common Parameter API)**	v3-wx-observations-current
Request by Geocode: Required Parameters: geocode, units, language, format, apiKey		
https://api.weather.com/v3/wx/observations/current?**geocode=40.58,-111.66&units=e&language=en-US&format=json&apiKey=<yourApiKey>**		
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey		
https://api.weather.com/v3/wx/observations/current?**iataCode=DEN&units=e&language=en-US&format=json&apiKey=<yourApiKey>**		
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey		
https://api.weather.com/v3/wx/observations/current?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=<yourApiKey>**		
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey		
https://api.weather.com/v3/wx/observations/current?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=<yourApiKey>**		
Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey		
https://api.weather.com/v3/wx/observations/current?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=<yourApiKey>**		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Reference: **The Weather Company Data | API Common Usage Guide** - Includes URL Path Components, Error Status Codes, Units of Measure, Postal Code Support, Language Codes

Field Name	Description	Type	Sample	Nulls Allowed	Translated	Display
cloudCeiling	Base of lowest Mostly Cloudy or Cloudy layer. Expressed in feet when units=e or h, and meters when units=m or s. **NOTE:** This field can be NULL for any geographic location depending on weather conditions. NULL indicates the ceiling is unlimited (clear skies).	integer	800	Y	N	Display as provided with the correct unit of measure (feet or meters).
cloudCoverPhrase	Descriptive sky cover - based on percentage of cloud cover. Range - Clear: coverage < 0.09375; Partly Cloudy: coverage < .59375; Mostly Cloudy: coverage < .75; Cloudy: coverage >= .75	string	Partly Cloudy	N	Y	Display as provided.
dayOfWeek	Day of week Range - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	string	Thursday	N	Y	Display as processed by your system.
dayOrNight	Daytime or nighttime of the local apparent time of the location Range - D = Day, N = Night, X = Missing (for extreme northern and southern hemisphere)	string	D	N	N	Do not display.
expirationTimeUtc	Expiration time in UNIX in UNIX epoch value. This expiration time indicates the data within the response will be outdated.	epoch	1369252800	N	N	Do not display.
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Icon Code list located here. Range - 0 to 47	integer	30	N	N	Do not display.
iconCodeExtend	A four digit code representing the full set of sensible weather icons. These codes are companions to iconCode with more specificity.	integer	3200	N	N	Do not display.
obsQualifierCode	The observation qualifier. It provides a qualitative description of current conditions, comparing the observation to climate averages, records, precip reports, severe weather warnings, etc **NOTE:** Obs Qualifier fields will be null until further notice. Range - “OQ” + 4-digit integer	string	OQ0031	Y	N	Do not display.
obsQualifierSeverity	An objective index or enumeration of the severity or significance of the observation qualifier. **NOTE:** This Obs qualifier field is unit of measure independent when populated. However, Obs Qualifier fields will be null until further notice. Range - 1 (low) through 6 (high)	integer	3	Y	N	Display as provided.
precip1Hour	Rolling hour liquid precip amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in millimeters when units=m, s, or h.	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or millimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.
precip6Hour	Rolling six hour liquid precip amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in millimeters when units=m, s, or h.	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or millimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.

precip24Hour	Rolling twenty-four hour liquid precip amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in millimeters when units=m, s, or h. **Note:** Arrival of new, refined data inputs may cause output values to change throughout a given day	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or millimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.
pressureAltimeter	Barometric pressure is the pressure exerted by the atmosphere at the Earth’s surface due to the weight of the air. Altitude can be determined based on the measurement of barometric pressure. The lower the pressure, the greater the altitude. Units - Expressed in inches of mercury when units=e, expressed in millibars when units=m, s, or h. Range - Inches of mercury precise to hundredths; Millibars precise to tenths.	decimal	30.18	N	N	Display the value using up to two decimals and always use the unit of measure millibars or its abbreviation “mb.” The Barometric Pressure should be labeled using one of the following: ● Pressure ● Atmospheric Pressure ● Surface Pressure ● Barometric Pressure
pressureChange	Change in pressure in the last three hours. Units - Expressed in inches of mercury for units=e, expressed in millibars when units=m, s, or h.	decimal	-0.03	N	N	Display as provided.
pressureMeanSeaLevel	Mean sea level pressure in millibars. In other words, the average barometric pressure at sea level. Range - Millibars precise to 1/10th mb	decimal	1022.4	N	N	Display as provided.
pressureTendencyCode	Code for pressureTendencyTrend. Range - 0 = steady, 1 = rising, 2 = falling, 3 = rapidly rising, 4 = rapidly falling	integer	0	N	N	Do not display.
pressureTendencyTrend	Descriptive text of pressure tendency over the past three hours. Indicates whether pressure is steady, rising, or falling. Range - Steady, Rising, Falling, Rapidly Rising, Rapidly Falling	string	Steady	N	Y	Display as provided.
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage. Range - 0 to 100	integer	55	N	N	Display with the percent sign “%” after the provided value.
snow1Hour	One hour snowfall amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in centimeters when units=m, s, or h.	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or centimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.
snow6Hour	Six hour snowfall amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in centimeters when units=m, s, or h.	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or centimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.
snow24Hour	Twenty four hour snowfall amount. The amounts presented are a rolling time through the request time (now). Units - Expressed in inches when units=e, expressed in centimeters when units=m, s, or h.	decimal	0	Y	N	Display as provided with the correct unit of measure (inches or centimeters). Recommendation: Accompany display with “estimate” or similar phrasing as accumulation measurements for specific points may not exactly match official or unofficial reported measurements.

sunriseTimeLocal	This field contains the local time of sunrise. It reflects any local daylight savings conventions. **NOTE:** For a few Arctic and Antarctic regions, the Sunrise and Sunset data values will be null as Sunrise and Sunset do not occur at these locations. Range - ISO 8601 - YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	ISO	2014-08-20T10:47:59-0500	Y	N	Display as provided.
sunriseTimeUtc	Sunrise time in UNIX epoch value.	epoch	1369252800	Y	N	Do not display.
sunsetTimeLocal	This field contains the local time of the sunset. It reflects any local daylight savings conventions. **NOTE:** For a few Arctic and Antarctic regions, the Sunrise and Sunset data values will be null as Sunrise and Sunset do not occur at these locations. Range - ISO 8601 - YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	ISO	2014-08-20T10:47:59-0500	Y	N	Display as provided.
sunsetTimeUtc	Sunset time in UNIX epoch value.	epoch	1369252800	Y	N	Do not display.
temperature	Temperature in defined unit of measure. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h. Range - -140 to 140	integer	74	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureChange24Hour	Change in temperature compared to the report 24 hours ago. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	-26	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureDewPoint	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dewpoint and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h. Range - -80 to 100 (°F) or -62 to 37 (°C)	integer	60	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureFeelsLike	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index. When the temperature is 65°F or higher, the Feels Like value represents the computed Heat Index. When the temperature is below 65°F, the Feels Like value represents the computed Wind Chill. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h. Range - -140 to 140	integer	101	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureHeatIndex	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. Below 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	82	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureMax24Hour	The maximum temperature in the last 24 hours. The 24 hour period is in reference to the request time (now). Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	73	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureMaxSince7Am	The maximum temperature since 7 A.M. local time. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	72	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
temperatureMin24Hour	The minimum temperature in the last 24 hours. The 24 hour period is in reference to the request time (now). Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	65	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.

temperatureWindChill	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. Above 65°F, it is set = to the temperature. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	integer	-34	N	N	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
uvDescription	The UV Index Description which complements the uvIndex value by providing an associated level of risk of skin damage due to exposure. Range - Not Available, No Report, Low, Moderate, High, Very High, Extreme	string	High	N	Y	Display as provided.
uvIndex	TWC’s proprietary UV index. The UV Index provides indices of the intensity of the solar radiation level and risk of skin damage due to exposure. Range - -2=Not Available, -1=No Report, 0-2=Low, 3-5=Moderate, 6-7=High, 8-10= Very High, 11-16=Extreme	integer	6	N	N	Display as provided.
validTimeLocal	Time observation is valid in local. Range - ISO 8601 - YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	ISO	2014-08-20T10:47:59-0500	N	N	Display as sorted. Sort by the observation date/time (oldest to newest, newest to oldest) and convert to the Range appropriate for your application Examples: ● US Range: MM/DD/YYYY HH:MM:SS ● US Range: MM/DD/YYYY ● European Range: DD/MM/YYYY ● Asian Range: YYYY/MM/DD
validTimeUtc	Time observation is valid in UNIX epoch value.	epoch	1369252800	N	N	Display as sorted. Sort by the observation date/time (oldest to newest, newest to oldest) and convert to the Range appropriate for your application Examples: ● US Range: MM/DD/YYYY HH:MM:SS ● US Range: MM/DD/YYYY ● European Range: DD/MM/YYYY ● Asian Range: YYYY/MM/DD
visibility	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. Visibilities greater than 10 statute miles(16.1 kilometers) which are considered “unlimited” are reported as “999” in your feed. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers. Units - Expressed in miles when units=e, expressed in kilometer when units=m, s, or h. Range - 0 to 999 or null; For greater than 1 = no decimal. For less than 1 = 2 (Metric) & 2 (Imperial) decimal places.	decimal	10.2	N	N	Display as provided.
windDirection	The magnetic wind direction from which the wind blows expressed in degrees. The magnetic direction varies from 0 to 359 degrees, where 0° indicates the North, 90° the East, 180° the South, 270° the West, and so forth. Range - 0<=wind_dire_deg<=350, in 10 degree intervals	integer	60	N	N	Wind Direction should always be displayed along with the Wind Speed, including Wind Gusts if present. Cardinal Wind Direction is recommended to be used unless your audience (usually pilots, military, sailing enthusiasts, etc.) are familiar with and understand Magnetic Wind Direction. Do not use both the Cardinal Wind Direction and the Magnetic Wind Direction. We recommend you use the full spelling of the wind direction value (North, South, Southeast, etc.).
windDirectionCardinal	This field contains the cardinal direction from which the wind blows in an abbreviated form.	string	ENE	N	Y	Wind Direction should always be displayed along

	Wind directions are always expressed as “from whence the wind blows” meaning that a North wind blows from North to South. If you face North in a North wind, the wind is at your face. Face southward and the North wind is at your back. Range - N, NNE, NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW, CALM					with the Wind Speed, including Wind Gusts if present. Cardinal Wind Direction is recommended to be used unless your audience (usually pilots, military, sailing enthusiasts, etc.) are familiar with and understand Magnetic Wind Direction. Do not use both the Cardinal Wind Direction and the Magnetic Wind Direction. We recommend you use the full spelling of the wind direction value (North, South, Southeast, etc.).
windGust	This data field contains information about sudden and temporary variations of the average Wind Speed. The report always shows the maximum wind gust speed recorded during the observation period. It is a required display field if Wind Speed is shown. The speed of the gust can be expressed in miles per hour or kilometers per hour. Units - Expressed in miles per hour when units=e or h, expressed in kilometers per hour when units=m, expressed in meters per second when units=s.	integer	10	Y	N	Display the Wind Speed with its Wind Direction. Use the value as it appears in the data feed (numeric value) and always display its unit of measure, either the fully spelled version or its abbreviation. Examples: ● Wind: from the Southeast at 5 miles per hour, gusting to 10 miles per hour. ● Wind: from the West at 8 km/h, gusting to 16 km/h.
windSpeed	The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back. Units - Expressed in miles per hour when units=e or h, expressed in kilometers per hour when units=m, expressed in meters per second when units=s.	integer	5	N	N	Display the Wind Speed with its Wind Direction. Use the value as it appears in the data feed (numeric value) and always display its unit of measure, either the fully spelled version or its abbreviation. Examples: ● Wind: from the Southeast at 5 miles per hour. ● Wind: from the West at 8 km/h.
wxPhraseLong	A text description of observed weather conditions accompanying the iconCode field. Range - 32 character phrase (Character limit applies to English phrases only. For other languages this phrase may exceed 32 characters)	string	Rain/Freezing Rain/Windy	N	Y	Display as provided.
wxPhraseMedium	A text description of observed weather conditions accompanying the iconCode field. **NOTE:** This field will be NULL for all languages other than US English (en_US). Range - 22 character phrase	string	Rain/Frz Rain/Wind	Y	N	Display as provided.
wxPhraseShort	A text description of observed weather conditions accompanying the iconCode field. **NOTE:** This field will be NULL for all languages other than US English (en_US). Range - 12 character phrase	string	Frz Rain	Y	N	Display as provided.

JSON Sample


```
// Response Collapsed for Presentation Purposes
[
  {
        “cloudCeiling”: 800,
        "cloudCoverPhrase": "Partly Cloudy",
        "dayOfWeek": "Monday",
        "dayOrNight": "D",
        "expirationTimeUtc": 1544455181,
        "iconCode": 26,
        "iconCodeExtend": 2600,
        "obsQualifierCode": null,
        "obsQualifierSeverity": null,
        "precip1Hour": 0,
        "precip6Hour": 0,
        "precip24Hour": 0.05,
        "pressureAltimeter": 30.14,
        "pressureChange": 0.05,
        "pressureMeanSeaLevel": 1018.6,
        "pressureTendencyCode": 1,
        "pressureTendencyTrend": "Rising",
        "relativeHumidity": 95,
        "snow1Hour": 0,
        "snow6Hour": 0,
        "snow24Hour": 0,
        "sunriseTimeLocal": "2018-12-10T07:34:27-0500",
        "sunriseTimeUtc": 1544445267,
        "sunsetTimeLocal": "2018-12-10T17:27:59-0500",
        "sunsetTimeUtc": 1544480879,
        "temperature": 38,
        "temperatureChange24Hour": -2,
        "temperatureDewPoint": 37,
        "temperatureFeelsLike": 38,
        "temperatureHeatIndex": 38,
        "temperatureMax24Hour": 42,
        "temperatureMaxSince7Am": 38,
        "temperatureMin24Hour": 36,
        "temperatureWindChill": 38,
        "uvDescription": "Low",
        "uvIndex": 1,
        "validTimeLocal": "2018-12-10T10:09:41-0500",
        "validTimeUtc": 1544454581,
        "visibility": 10,
```

```
            "windDirection": 110,
            "windDirectionCardinal": "ESE",
            "windGust": null,
            "windSpeed": 2,
            "wxPhraseLong": "Partly Cloudy",
            "wxPhraseMedium": "Partly Cloudy",
            "wxPhraseShort": "P Cloudy"
    }
]
```

Lifestyle Indices - Frost Potential Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Frost Potential Index provides an indices indicating likelihood of Frost.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Frost Potential Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/frost/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/frost/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrostDaypart3
https://api.weather.com/v2/indices/frost/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrostDaypart5
https://api.weather.com/v2/indices/frost/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrostDaypart7
https://api.weather.com/v2/indices/frost/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrostDaypart10
https://api.weather.com/v2/indices/frost/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxFrostDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/frost/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/frost/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxFrostDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Frost Potential Index	frostPotentialCategory	Descriptive text of Frost Potential Index	[string]		None	N	Display As Provided
	frostPotentialIndex	Index indicating likelihood of Frost. 0=none, 1=low, 2=moderate, 3=high	[integer]	0-3	0	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"frostPotentialIndex12hour": {
"fcstValid": [],                {//JSON payload},
"fcstValidLocal": [],           {//JSON payload},
"dayInd": [],                   {//JSON payload},
"num": [],                      {//JSON payload},
"daypartName": [],              {//JSON payload},
"frostPotentialIndex": [],      {//JSON payload},
"frostPotentialCategory": []    {//JSON payload},
}
}
```

Weather Company Data - High-Level Significant Weather Forecast - v2

Domain Portfolio: Weather Imagery Vector Data | Domain: Aviation Forecast | API Name: High-Level Significant Weather - v2

Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the “Expires” parameter. Example: “Expires: Fri, 12 Jul 2013 12:00:00 GMT”.

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Feature Data Service | Common Usage Guide
  - https://ibm.biz/BdYrpD

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **‘time’** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request’s **‘time’** parameter.
https://api.weather.com/v2/vector-api/products/1262/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **‘feature-id’** and **‘valid-time’** parameters.
https://api.weather.com/v2/vector-api/products/1262/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 1262 - High-Level Significant Weather Forecast - HiSigWx

The source of the data is the high-level prog chart FL240-630 from the Aviation Weather Center, one of nine national centers which comprise the National Centers for Environmental Prediction (NCEP), created by the National Oceanic and Atmospheric Administration (NOAA) to serve the public and the National Weather Service.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
forecast_period	Number of hours covered by the forecast
layer_name	Layer type for the JSON feature; examples include CONVECTION, JET_STREAM, STORM, and TURBULENCE
layer_properties	JSON object with contents specific to the particular layer type
valid_time_str	Forecast time; example "02Sep18 00:00Z"
intensity	Additional data field which appears infrequently; this field conveys no significant information to the end user

The following table summarizes the **layer_properties** object for each **layer_name** value. The fields within this **layer_properties** object provide additional information about that particular layer.

Field *Found in the GeoJSON response in the feature's **layer_properties** field*	**Description**
CONVECTION	
convection_type	Type of convection, such as "OCNL/EMBED" for OCNL-embedded convection between **conv_base_level** and **conv_upper_level** Possible values: ISOL/EMBED, OCNL/EMBED, FREQUENT
conv_base_level	Base flight level, where "280" represents FL280 - *A value of "XXX" indicates a base level at or below the product's base level, namely FL250*
conv_upper_level	Upper flight level, where "280" represents FL280
JET_STREAM	
{ }	***layer_property** is an empty JSON object*

JET_STREAM_POINT_DATA	
jet_wind_speed	Speed in knots, example “120” for 120 knots at **jet_wind_level**
jet_wind_level	Flight level, where “280” represents FL280
RADIATION	
{ }	***layer_property*** *is an empty JSON object*
STORM - *indicates a tropical storm*	
{ }	***layer_property*** *is an empty JSON object*
TROPOPAUSE	
trop_type	Type of troposphere forecast at an altitude of **trop_height** ● “LOW” for a relative minimum with respect to the surrounding area ● “HIGH” for a relative maximum with respect to the surrounding area ● “SPOT” for an ordinary troposphere level
trop_height	Flight level, where “280” represents FL280
TURBULENCE	
turbulence_type	Possible values: MOD, MOD/SEV, SEV
turb_base_level	Base flight level, where “280” represents FL280 - *A value of “XXX” indicates a base level at or below the product’s base level, namely FL250*
turb_upper_level	Upper flight level, where “280” represents FL280
TURBULENCE_POINT_DATA	
turb_base_level	Base flight level, where “280” represents FL280 - *A value of “XXX” indicates a base level at or below the product’s base level, namely FL250*
turb_upper_level	Upper flight level, where “280” represents FL280
VOLCANO	
{ }	***layer_property*** *is an empty JSON object*

Document Revision History

Revision	Date	Notes
1.0	Dec 7, 2018	Initial versioned document; addition of Document Revision History

Lifestyle Indices - Dry Skin Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Dry Skin index provides indices indicating likelihood that a person will experience dry skin based on weather conditions.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
DrySkin Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/drySkin/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/drySkin/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinDaypart3
https://api.weather.com/v2/indices/drySkin/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinDaypart5
https://api.weather.com/v2/indices/drySkin/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinDaypart7
https://api.weather.com/v2/indices/drySkin/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinDaypart10
https://api.weather.com/v2/indices/drySkin/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/drySkin/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/drySkin/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxDrySkinDaypart3
DrySkin Index - Hourly API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/drySkin/hourly/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/drySkin/hourly/24hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinHourly24
https://api.weather.com/v2/indices/drySkin/hourly/48hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinHourly48

https://api.weather.com/v2/indices/drySkin/hourly/72hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/drySkin/hourly/120hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/drySkin/hourly/240hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey** https://api.weather.com/v2/indices/drySkin/hourly/360hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxDrySkinHourly72 v2idxDrySkinHourly120 v2idxDrySkinHourly240 v2idxDrySkinHourly360
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/drySkin/hourly/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/drySkin/hourly/24hour?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxDrySkinHourly24

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart (12hour) - Sequential daypart number, where 1 = daytime of Day 0 Hourly (1hour) - Sequential hour number, where 1 = first available hour of forecast, usually <= 1hr from “now”	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
Unique to Hourly Endpoints	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
Unique to Daypart Endpoints	daypartName	Name of 12hr daypart, not including day names in first 48hrs (Today, Tonight, Tomorrow, Tomorrow Night, Wednesday, Thursday, etc)	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Dry Skin Index	drySkinCategory	Descriptive text of Dry Skin Index	[string]		Minimal Concern	N	Display As Provided
	drySkinIndex	Index indicating likelihood that a person will experience dry skin based on weather conditions. 0-2=Minimal Concern, 3-4=Low Concern, 5-6=Moderate Concern, 7-8=High Concern, 9-10=Very High Concern	[integer]	0-10	2	N	Display As Provided

JSON Sample

JSON Sample - Hourly	JSON Sample - Daypart

{
"metadata": {},
"drySkinIndex1hour": { {//JSON payload },
"fcstValid": [], {//JSON payload },
"fcstValidLocal": [], {//JSON payload },
"num": [], {//JSON payload },
"dow": [], {//JSON payload },
"dayInd": [], {//JSON payload },
"drySkinIndex": [], {//JSON payload or null },
"drySkinCategory": [] {//JSON payload or null },
}
}
	{
	"metadata": {},
	"drySkinIndex12hour": {
	"fcstValid": [], {//JSON payload },
	"fcstValidLocal": [], {//JSON payload },
	"dayInd": [], {//JSON payload },
	"num": [], {//JSON payload },
	"daypartName": [], {//JSON payload },
	"drySkinIndex": [], {//JSON payload or null },
	"drySkinCategory": [] {//JSON payload or null },
	}
	}

Vector Aviation PIREPs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation PIREPs - v2 **Restricted**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6009/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6009/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6009 - Aviation PIREPs

The source of the data for PIREP (Pilot Report) includes Government sources of WMO bulletins (NOAAPort, NWS FTP, WxWire, UKMO) as well as those that are submitted through TWC aviation applications. PIREPs report on multiple phenomena such as turbulence, icing, low level wind shear, urgent meteorological, and routine meteorological observations.

PIREPs are made available as they are received. The observations become less important as time passes and conditions are able to change. The latency can largely depend on the pilot/dispatcher submitting the report since there is no automation involved. For this reason it can be many minutes between experiencing the phenomena and the report being made available for use.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	Unix Timestamp when the Sigmet was queried
Aircraft_id	Identifier of the aircraft (Flight or tail number). Defaults P- when unknown
Msg_type	Code for type of message (U=urgent, S=special, R=routine)
Report_type	Format of raw report, e.g. PIREP, AIREP
Airline	Id for airline that operates the aircraft
Aircraft_type	Type of Aircraft
Time_qc	Quality control flag for time (G=good,B=bad,E=estimated)
Fl_qc	Quality control flag for flight level (G=good, B=bad, E=estimated, C=categorical (non-numeric))
Flight_level	Textual identifier for the flight level
Lower_fl	Lower numeric flight level in hundreds of Feet
Upper_fl	Upper numeric flight level in hundreds of Feet
Flight_mode	Indicates if aircraft is climbing (A) or descending (D)
Rpt_site_id	Site through which the PIREP was reported. Sometimes used to indicate the general region in which the PIREP is located
Departure_id	Airport from which the aircraft departed
Destination_id	Airport to which the aircraft is travelling

Wmo_region	Two character WMO geographic area code (group A1A2, WMO table C1), indicating indicating the general location of the PIREP
Navfix_id	Navigational fix used to determine location; may have 6-digit suffix containing azimuth (deg) and range (Nmi) from the fix location
Navfix_id2	Secondary navigational fix; used if the primary is unknown
Loc_qc	Quality control flag for location (G=good,B=bad,E=estimated)
Temperature	Air temperature in Celsius
Dew_point	Dew point in Celsius
Wind_speed	Wind Speed in Knots
Wind_direction	Wind Direction in degrees
Visibility	Horizontal Visibility in meters
Turbulence_text	Raw text for turbulence
Turbulence_intensity	Index for intensity of turbulence 1 – Smooth 2 – Smooth-Light 3 – Light 4 – Light-Moderate 5 – Moderate 6 – Moderate-Severe 7 – Severe 8 – Extreme
Turbulence_frequency	Index for frequency of turbulence 1 – Occasional 2 – Intermittent 3 – Continuous
Turbulence_type	Enumeration for type of turbulence 1 – CHOP 2 – TURB
icing_text	Raw text for icing

icing_intensity	Index for intensity of icing 1 – Negligible 2 – Trace 3 – Light 4 – Light-Moderate 5 – Moderate 6 – Moderate-Severe 7 – Severe 8 – Extreme
icing_frequency	Index for frequency of icing 1 – Occasional 2 – Intermittent 3 – Continuous
icing_type	Enumeration for type of icing 1 – RIME 2 – MIXED 3 - CLEAR
Llws_text	Raw text for Low-Level Wind Shear
Airspeed_tendency	Code indicating direction of changes, e.g. +, -, or +/- for both
Min_airspeed_change	Smallest reported airspeed change (absolute value) in Knots
Max_airspeed_change	Largest reported airspeed change (absolute value) in Knots
Cloud_base_height	Array of cloud base heights for each cloud deck in hundreds of Feet
Cloud_top_height	Array of cloud top heights for each cloud deck in hundreds of Feet
Cloud_cover	Array of cloud covers for each cloud deck in percent coverage
Cloud_type	Array of cloud types for each cloud deck
Sky_condition_text	Raw text for sky conditions
Weather_text	Raw text from weather group
Ac_cloud_env	Indicates if aircraft is in cloud or in meteorological conditions (IMC)

Undecoded_groups	Undecodable text from the main groups
Remarks	Remarks section from report
Data	Raw data of pilot report
Aircraft_weight_class	Aircraft Weight Class, e.g. S(mall), L(arge), or H(eavy)
Engine_type	Engine Type, e.g. J(et), T(urboprop), or P(iston)

Local Storm Reports - v2
Document Version 1.1

Domain Portfolio: Alerts | Domain: Alerts | Usage Classification: Standard

Geography: U.S. Only **Attribution Required:** No **Attribution Requirements:** Suggested to display 'bulletin_source' as provided.

Overview

Short text reports of observed severe weather such as wind or hail damage, snow depth that is parsed from NWS Local Storm Report (LSR) and Public Information Statement (PNS) bulletins. The reports are ranked and prioritized by TWC upon receipt from the NWS.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Request All Storm Reports: Required Parameters: format https://api.weather.com/v2/stormreports?format=<json or xml>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/stormreports?format=json&apiKey=**yourApiKey**	v2stormReports
Request All Storm Reports: Required Parameters: format, next Within the metadata section of the response there is a field named 'next_batch'; if next_batch equals null the user has received all the data and is done. If next_batch is not null the user will make an additional call - the 'next' parameter will be set equal to the value found in 'next_batch'. Keep calling the API until next_batch equals null. https://api.weather.com/v2/stormreports?format=<json or xml>&**next=<next_batch>**&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/stormreports?format=json&**next=1461720061**&apiKey=**yourApiKey**	v2stormReports
Request Storm Reports By County: Required Parameters: geoId, format https://api.weather.com/v2/stormreports?**geoId=GAC121**&format=<json or xml>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/stormreports?geoId=GAC121&format=json&apiKey=**yourApiKey**	v2stormReports

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
class	Sun class identifier	string	In lowercase	stormreports	N	display as provided
key	Unique identifier for a record	string	N/A	0aca7cb03f192d5efc100fdd7ca9e6b1	N	display as provided

geo_id	County ID or Zone ID	string	Any valid county id or zone id	GAC028	Y	display as provided
geo_type	Geography type	string	C = county, Z = zone	C	N	display as provided
state_code	Any Valid State Abbreviation	string	Any valid state code	GA	N	display as provided
geo_name	County or Zone Name	string	Any valid county or zone name	Paulding	Y	display as provided
location	Place name for the storm report	string	Unlimited	Dallas	N	display as provided
region	Region as reported by the NWSev	string	MW, NE, SE, WE, AK, CARIB, HI, PAC, WSTPAC	SE	N	display as provided
datetime_local	Date and time of the sensor report	iso	N/A	2015-09-29T00:00:00	N	display as provided
timezone	Time zone abbreviation for datetime_local	string	Any valid time zone abbreviation	EDT	N	display as provided
iana_code	IANA time code	string	America/New_York		N	display as provided
datetime_gmt	Day time string in unix seconds UTC	integer	Unlimited	1252902300	N	display as provided
latitude	Latitude	decimal	Unlimited	33.79	N	display as provided
longitude	Longitude	decimal	Unlimited	-84.37	N	display as provided
nws_office	Code for office that generated the report	string	Any valid NWS office code	KATL	N	display as provided
magnitude	Magnitude of the event - can be decimal, integer or null	string	Unlimited	10.2	Y	display as provided
magnitude_desg	Method used to determine magnitude	string	U = unknown, M = measured, E = estimated, P = up to, null	M	Y	display as provided
magnitude_units	Unit of measure for magnitude	string	inches = inches, MPH = mph, null	INCHES	Y	display as provided
event_class	Class for the event. Class types include: RAINFALL, WINTER, SEVERE, FLOODING, NON THUNDERSTORM WINDS, DROUGHT, DENSE FOG, TROPICAL, OTHER (e.g. unrecognized or misspelled class type).	string	See Appendix: Event Types	SEVERE	N	display as provided
event_class_id	ID of the event class. Unique code for each Event Class. Included to provide flexibility in filtering logistics.	string	See Appendix: Event Types	SVR	N	display as provided
event_type	Type for the event. Displayable name for a kind of event.	string	See Appendix: Event Types	HAIL	N	display as provided
event_type_id	ID for the event type. Unique code for each Event Type. Included to provide flexibility filtering logistics.	string	See Appendix: Event Types	HAI	N	display as provided
bulletin_type	Type of bulletin data was extracted from	string	LSR = local storm report, PNS = public service notice	LSR	N	display as provided
bulletin_source	Source of the bulletin	string	NWS	NWS	N	display as provided
comments	Storm report comments	string	Unlimited	NUMEROUS ROADS IN EASTERN ROCKDALE COUNTY CLOSED DUE TO HIGH WATER.	Y	display as provided
severity	Relative severity of the event	integer	1 = lowest, 10 = highest	10	N	display as provided
sorted_by_time	Data sorted by time, severity, amt_group_id (excluding 99), dma_rank, and population in ascending order	string		9854382249992019399900989926533O	N	display as provided
sorted_by_severity	Data sorted by severity, amt_group_id (excluding 99), dma_rank, time, and population in ascending order	string		9201939990098985438224999926533O	N	display as provided
dma	DMA code for the location	string	0 to 999 or alpha	8	Y	display as provided
dma_rank	Rank of the dma	integer	0 to 999	20	Y	display as provided
population	Population for the county	integer	0 to 99999999	155000	Y	display as provided
source	Source of the report	string	Unlimited	SPOTTER	Y	display as provided
process_time_gmt	Unix time processed by the Sun	epoch	N/A	1443554828	N	display as provided

expire_time_gmt	Expiration time	epoch	N/A	1380170106	N	display as provided

JSON Sample


```
{
        metadata: {
        language: "en-US",
        transaction_id: "1461163881870:1585859798",
        version: "2",
        geoId: null,
        expire_time_gmt: 1461185481,
        status_code: 200
},
        stormreports: [
{
        key: "5997edcc8f3a8b4f43e727245a50110f",
        geo_id: "COC029",
        geo_type: "C",
        state_code: "CO",
        geo_name: "DELTA COUNTY",
        location: "PARK RSVR",
        region: "WE",
        datetime_local: "2016-03-15T09:00:00",
        timezone: "MDT",
        iana_code: "America/Denver",
        datetime_gmt: 1458054000,
        latitude: 39.04667,
        longitude: -107.875,
        nws_office: "KGJT",
        magnitude: "3.0",
        magnitude_desg: "M",
        magnitude_units: "INCHES",
        event_class: "WINTER",
        event_class_id: "WIN",
        event_type: "24 HOUR SNOWFALL",
        event_type_id: "S24",
        bulletin_type: "PNS",
        bulletin_source: "NWS",
        comments: null,
        severity: 3,
        sorted_by_time: "985419675999605996990016999696665",
        sorted_by_severity: "960599699001698541967599999696665",
        dma: "751",
        dma_rank: 16,
        population: 30334,
        source: "SPOTTER",
        process_time_gmt: 1461092370,
        expire_time_gmt: 1461437970
},
]
```

```
}
```

Appendix: Event Types

EVENT_CLASS	EVENT_TYPE	EVENT_TYPE_ID	EVENT_CLASS_ID
DENSE FOG	DENSE FOG	DFG	DFG
DROUGHT	BLOWING DUST	BDU	DRG
DROUGHT	DROUGHT	DRO	DRG
DROUGHT	DUST STORM	DUS	DRG
DROUGHT	WILDFIRE	WLD	DRG
FLOODING	DEBRIS FLOW	DFL	FLD
FLOODING	FLASH FLOOD	FLA	FLD
FLOODING	FLOOD	FLO	FLD
FLOODING	ICE JAM FLOODING	IJF	FLD
FLOODING	LANDSLIDE	LAN	FLD
NON-THUNDERSTORM WINDS	HIGH SUST WINDS	NWG	NTW
NON-THUNDERSTORM WINDS	HIGH SUSTAINED WINDS	HSW	NTW
NON-THUNDERSTORM WINDS	NON-THUNDERSTORM WIND DAMAGE	NWD	NTW
NON-THUNDERSTORM WINDS	NON-THUNDERSTORM WIND GUST	NWG	NTW
NON-THUNDERSTORM WINDS	NON-TSTM WIND DAMAGE	NWD	NTW
OTHER	SEICHE	SEI	TRO
RAINFALL	1 HOUR RAINFALL	R01	RAI
RAINFALL	12 HOUR RAINFALL	R12	RAI
RAINFALL	24 HOUR RAINFALL	R24	RAI
RAINFALL	48 HOUR RAINFALL	R48	RAI
RAINFALL	6 HOUR RAINFALL	R06	RAI
RAINFALL	HEAVY RAIN	HVR	RAI
RAINFALL	STORM TOTAL RAINFALL	RTO	RAI
SEVERE	DOWNBURST	DWN	SVR
SEVERE	FUNNEL CLOUD	FUN	SVR
SEVERE	HAIL	HAI	SVR
SEVERE	LANDSPOUT	TOR	SVR
SEVERE	LIGHTNING	LGT	SVR
SEVERE	THUNDERSTORM WIND DAMAGE	TWD	SVR

SEVERE	THUNDERSTORM WIND GUST	TWG	SVR
SEVERE	TORNADO	TOR	SVR
SEVERE	WALL CLOUD	WAL	SVR
SEVERE	WATERSPOUT	WAT	SVR
TEMPERATURE	EXTREME COLD	EXC	TMP
TEMPERATURE	EXTREME HEAT	EXH	TMP
TEMPERATURE	WIND CHILL	WCH	TMP
TROPICAL	COASTAL FLOOD	CFL	TRO
TROPICAL	HIGH SURF	HSF	TRO
TROPICAL	LAKESHORE FLOOD	LFL	TRO
TROPICAL	MISC MRN/SRF HZ	MIS	TRO
TROPICAL	RIP CURRENTS	RCT	TRO
TROPICAL	SNEAKER WAVE	SWA	TRO
TROPICAL	STORM SURGE	SUR	TRO
TROPICAL	TROPICAL CYCLONE	HUR	TRO
TROPICAL	TSUNAMI	TSU	TRO
VOLCANO	VOG	VOG	VOL
VOLCANO	VOLCANIC ASHFALL	VAF	VOL
WINTER	1 HOUR SNOWFALL	S01	WIN
WINTER	12 HOUR SNOWFALL	S12	WIN
WINTER	24 HOUR SNOWFALL	S24	WIN
WINTER	48 HOUR SNOWFALL	S48	WIN
WINTER	6 HOUR SNOWFALL	S06	WIN
WINTER	AVALANCHE	AVA	WIN
WINTER	BLIZZARD	BLZ	WIN
WINTER	FREEZING RAIN	FZR	WIN
WINTER	HEAVY SNOW	HVS	WIN
WINTER	ICE JAM	IJA	WIN
WINTER	SLEET	SLE	WIN
WINTER	SNOW	SNO	WIN
WINTER	SNOW ON GROUND	SNG	WIN
WINTER	SNOW SQUALL	SSQ	WIN
WINTER	SNOW/ICE DAMAGE	SID	WIN

WINTER	STORM TOTAL SNOWFALL	STO	WIN

Lifestyle Indices - Aches and Pains - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Aches and Pains index indicates the weather's influence on an individual's potential to feel aches and pains.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Aches and Pains Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/achePain/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/achePain/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPainDaypart3
https://api.weather.com/v2/indices/achePain/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPainDaypart5
https://api.weather.com/v2/indices/achePain/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPainDaypart7
https://api.weather.com/v2/indices/achePain/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPainDaypart10
https://api.weather.com/v2/indices/achePain/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPainDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/achePain/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/achePain/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxPainDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Aches and Pains Index	achesPainsCategory	Descriptive text of Aches and Pains Index	[string]		Moderate	N	Display As Provided
	achesPainsIndex	Index indicating the weather's influence on an individual's potential to feel aches and pains. 1-2=Minimal, 3-4=Low, 5-6=Moderate, 7-8=High, 9=-10=Very High	[integer]	1-10	6	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"achesPainsIndex12hour": {
"fcstValid": [],                    {//JSON payload},
"fcstValidLocal": [],               {//JSON payload},
"dayInd": [],                       {//JSON payload},
"num": [],                          {//JSON payload},
"daypartName": [],                  {//JSON payload},
"achesPainsIndex": [],              {//JSON payload},
"achesPainsCategory": []            {//JSON payload}
}
}
```

Earthquakes - v2

Domain Portfolio: Weather Imagery | Domain: Natural Disasters | API Name: Earthquakes - v2

Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the “Expires” parameter. Example: “Expires: Fri, 12 Jul 2013 12:00:00 GMT”.

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **‘time’** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** || **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request’s **‘time’** parameter.
https://api.weather.com/v2/vector-api/products/601/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** || **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **‘feature-id’** and **‘valid-time’** parameters.
https://api.weather.com/v2/vector-api/products/601/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 601 - Earthquakes

The provider of the earthquake data is the Comprehensive Earthquake Catalog (ComCat), a product of the Advanced National Seismic System (ANSS), which is part of the U.S. Geological Survey's Earthquake Hazards Program.

Each earthquake event is described in a GeoJSON object, where the latitude and longitude pinpoint the epicenter, which is located on the earth's surface. An earthquake begins to rupture at the hypocenter, located at the focal depth directly below the epicenter.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
depth	Focal depth of the earthquake event, in kilometers; more specifically, the hypocenter depth where the earthquake begins to rupture This is the least constrained parameter in the earthquake's location, in part because different seismic networks use different methods to locate earthquakes, and these methods may use different reference depths. Depending on the source network, the earthquake depth may be relative to the WGS84 geoid, mean sea level, or the average elevation of the seismic stations which provided arrival-time data for the earthquake's location. The earthquake depth may instead be a fixed value if the calculated depth is poorly constrained by available seismic data. For example, shallow earthquakes may be given a default depth of 33 km, or the default depth may only be 5 km or 10 km for quakes in mid-continental areas or on mid-ocean ridges.
mag	Official earthquake magnitude, as denoted by the U.S. Geological Survey This magnitude is a logarithmic measure of the earthquake's size at its source. With a unit increase in magnitude (ex. from 4.0 to 5.0), the seismic waves' amplitude increase by a factor of approximately 10, and (for many common magnitude types) the earthquake's average total energy increases by a factor of approximately 32.
magType	Magnitude type, denoting the method or algorithm used to calculate **mag**, the earthquake event's official magnitude • **mb:** Short-period body wave, based on P bodywaves' amplitude, as recorded on short period instruments • **mb_lg, mb_lg, MLg:** Short-period surface wave, the amplitude of the Lg surface waves as recorded on short-period instruments • **Me:** Energy, radiated seismic energy as estimated by the integration of digital waveforms • **Md, md:** Duration, shaking duration as measured by the time decay of the seismogram's amplitude • **Mi, Mwp:** Moment, based on an estimated moment calculated from the integral of the P wave's displacement, as recorded on broadband instruments • **ML, Ml, ml:** Local, the original magnitude calculation for local earthquakes, defined by Richter and Gutenberg in 1935, currently calculated from modern instruments with appropriate adjustments for the data • **Ms, Ms_20:** Twenty-second surface wave, based on the amplitude of Rayleigh surface waves measured at a period near 20 seconds.

	● **Mw, mw:** Moment, based on the scalar seismic-moment, as determined by a moment-tensor inversion; **Mw** and **mw** are generic indicators, with more specific types denoted as follows: ○ **Mwb, mwb:** long-period *body-waves* (P- and SH, approximately 10 to 100 s) ○ **Mwc, mwc:** *centroid* inversion, of intermediate- and long-period body- and surface waves ○ **Mwr, mwr**: complete waveforms at *regional* distances of less than approximates 13 degrees ○ **Mww, mww:** *W-phase*

Vector Aviation TFRs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation TFRs - v2 **Restricted**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide.**

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6001/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6001/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6001 - Aviation TFRs

The source of the data includes FDC NOTAMs supplemented by data from the FAA. The product is setup such that each valid_time includes the complete current and future state. Each new valid_time obsoletes the prior state.

Also note that a single TFR can have zero to many effective regions and different active time periods. Since the active time period range for region A could differ from region B, it will be possible such that region A ages out of the active state prior to region B aging out. This will result in a NOTAM being partially included as effective regions are no longer valid.

Some TFRs have the special case of having no corresponding region, e.g. Special Security Instructions. These TFRs do contain a single point geometry by default, chosen to be Washington, DC.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's* ***properties*** *field*	**Description**
Valid_time	Unix Timestamp when the Oceanic Track was queried
Tfr_id	FDC NOTAM ID. Note that a single NOTAM can include more than one effective region.
Issue_time	FDM NOTAM issuance timestamp in ISO-8601 format
Classification	Classification based on the CFR. Expected values include Special Security, Rescue/Spill/Volcano, Fire/Spraying/Rescue, Special Event of Public Interest, Disaster/Hazard Area, Disaster in Hawaii, Emergency Air Traffic Rules, Presidential, Rocket Launch/Flight, High Barometric Pressure, Sports Event/Air Show, or Unknown.
Cfr	Code of Federal Regulations
Tfr_text	FDC NOTAM Text
Start_time	Region Effective Start Timestamp in ISO-8601 format
Start_time_mod	Textual description of Effective Start Time
End_time	Region Effective End Timestamp in ISO-8601 format
End_time_mod	Textual description of Effective End Time
Schedule	Additional Start/End Time within the NOTAM effective Start/End Times, e.g. DLY 0100-0600
Effective_times	Array of effective times within the NOTAM effective Start/End Times, e.g. 1703032030 UTC UNTIL 1703060330 UTC
Altitude_datum	Altitude reference, e.g. AGL or MSL

Upper_level	Upper vertical level extent of TFR region, e.g. FL180. The lower extent is inferred as the surface
Upper_fl	Numeric representation of the upper vertical extent in Flight Level units.

Weather Alerts Headlines - v3.0
Document Version - 1.3.3

Domain Portfolio: Alerts | Domain: Alerts | Usage Classification: Standard

Geography: US, Canada, Japan, Western Europe, Australia, South Korea

Attribution Required: YES

Attribution Requirements: Clients must provide data source attribution on anywhere data is displayed.

The attribution phrase must display: “Issued by <Office Name> - <Office Admin District Code>, <Office Country Code>, <Source>, <Disclaimer>”.

- Example: Issued by National Weather Service - Bismarck, US
- Example: Issued by Central Institute for Meteorology and Geodynamics - Austria, EUMETNET-Meteoalarm, Disclaimer: "Time delays between this website and Meteoalarm.eu are possible. For the most up-to-date information about alert levels as published by the participating National Meteorological Services, please visit Meteoalarm."

Overview

The Weather Alert Headlines API provides weather watches, warnings, statements and advisories issued by the NWS (National Weather Service), Environment Canada, MeteoAlarm (Europe), ABOM (Australian Bureau of Meteorology) and the KMA (Korean Meteorological Agency) . These weather alerts can provide crucial life-saving information. Weather alerts can be complicated and do not always follow consistent standards, format and rules. The Weather Company (TWC) strives to ensure that the information is consistent from all of the different sources but the content is subject to change whenever there is an update from the authoritative source.

The Weather Alert Headline API returns active weather alert headlines related to Severe Thunderstorms, Tornadoes, Earthquakes, Floods, etc . This API also returns non-weather alerts such as Child Abduction Emergency and Law Enforcement Warnings.

The API also provides the <detailKey> attribute which is required to access the alerts details in the Alerts Detail API if additional content is required.

The metadata section of the API response contains the attribute ‘next‘. if ‘next’ equals null the user has received all the data and is done. If ‘next’ is not null the user will need to make additional calls to the Alerts Headlines API - setting the ‘next’ parameter equal to the previously returned ‘next’ value. Keep calling the API until ‘next’ equals null.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. When formatting a request URL a valid language must be used (see **The Weather Company Data | API Common Usage Guide)**

- countryName
- disclaimer
- headlineText
- eventDescription
- officeAdminDistrict

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v3alertsHeadlines
Request by Country: **Required Parameters:** countryCode, format, language, apiKey **| Optional Parameters:** next https://api.weather.com/v3/alerts/headlines?**countryCode**=<**countryCode**>&format=json&language=en-US&**next**=<**next**>&apiKey=**yourApiKey**		
https://api.weather.com/v3/alerts/headlines?countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**		
Request by Admin District (State or Province): **Required Parameters:** adminDistrictCode, countryCode, format, language, apiKey **| Optional Parameters:** next https://api.weather.com/v3/alerts/headlines?**adminDistrictCode**=<**adminDistrictCode**:**countryCode**>&format=json&language=en-US&**next**=<**next**>&apiKey=**yourApiKey**		
https://api.weather.com/v3/alerts/headlines?adminDistrictCode=GA:US&format=json&language=en-US&apiKey=**yourApiKey**		
Request by Area: **Required Parameters:** areaId, countryCode, format, language, apiKey **| Optional Parameters:** next https://api.weather.com/v3/alerts/headlines?**areaId**=<**areaId**:**countryCode**>&format=json&language=en-US&**next**=<**next**>&apiKey=**yourApiKey**		
https://api.weather.com/v3/alerts/headlines?areaId=FLC043:US&format=json&language=en-US&apiKey=**yourApiKey**		
Request by Geocode (Latitude & Longitude): **Required Parameters:** geocode, format, language, apiKey **| Optional Parameters:** next https://api.weather.com/v3/alerts/headlines?**geocode**=<**latitude,longitude**>&format=json&language=en-US&**next**=<**next**>&apiKey=**yourApiKey**		
https://api.weather.com/v3/alerts/headlines?geocode=32.69,-83.42&format=json&language=en-US&apiKey=**yourApiKey**		

Weather Alert Country Coverage and Valid countryCode

Country Name	countryCode	Country Name	countryCode	Country Name	countryCode	Country Name	countryCode
Austria	AT	Finland	FI	Lithuania	LT	Serbia	RS
Australia	AU	France	FR	Luxemburg	LU	Slovakia	SK
Belgium	BE	Germany	DE	Macedonia (the former Yugoslav Republic of)	MK	Slovenia	SI
Bosnia-Herzegovina	BA	Greece	GR	Malta	MT	South Korea	KR
Bulgaria	BG	Hungary	HU	Moldova	MD	Spain	ES
Canada	CA	Iceland	IS	Montenegro	ME	Sweden	SE
Croatia	HR	Ireland	IE	Netherlands	NL	Switzerland	CH
Cyprus	CY	Israel	IL	Norway	NO	United Kingdom	UK
Czech Republic	CZ	Italy	IT	Poland	PL	United States of America	US
Denmark	DK	Japan	JP	Portugal	PT		
Estonia	EE	Latvia	LV	Romania	RO		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
"metadata.object"		object			N
next	Used to paginate responses	integer		1475863030000	Y
"alerts.object"		object			N
adminDistrict	Admin district name	string		Montana	Y
adminDistrictCode	Admin district code	string		MT	Y
areaId	Location code for a location where the event occurs.	string		MTC035	N
areaName	Mixed case location name	string		Glacier	N
areaTypeCode	This identifies type of location.	string	C = county Z = zone CLC=Canada Location	C	N

certainty	Certainty text	string	Observed – Determined to have occurred or to be ongoing Likely - Likely (p > ~50%) Possible - Possible but not likely (p <= ~50%) Unlikely - Not expected to occur (p ~ 0) Unknown - Certainty unknown	Observed	N
certaintyCode	Certainty code	string	1 - Observed 2 - Likely 3 - Possible 4 - Unlikely 5 - Unknown	1	N
countryCode	country code of the location	string		US	N
countryName	country name	string		UNITED STATES OF AMERICA	N
detailKey	detail record key	string		77128ec9-cebe-46b2-8d72-d1f6860454e7	N
disclaimer	Disclaimer for data	string		null	Y
displayRank	Suggested display order. See Appendix A	integer		17	N
effectiveTimeLocal	The effective date and time of the information in the alert message.	string	valid date	2017-10-07T12:30:00-05:00	Y
effectiveTimeLocalTimeZone	Time Zone Abbreviation for effective time	string	valid timezone	EDT	Y
eventDescription	Event Description	string		Tornado Warning	N
eventTrackingNumber	Event Tracking Number	string	4 digit number or a checksum	160	N
expireTimeLocal	The expire date and time of the information in the alert message.	string	valid date	2017-10-07T19:30:00-05:00	N
expireTimeLocalTimeZone	Time Zone Abbreviation	string	valid timezone	EDT	N
expireTimeUTC	Expire date and time in UTC	epoch	valid Epoch time	1373914800	N
headlineText	Headline text of an event for the location	string	{event} is in effect {event} until {DOW HH:MM AM/PM TZCODE} {event} from {DOW HH:MM AM/PM TZCODE} until {DOW HH:MM AM/PM TZCODE}	Flood Warning until SAT 12:30PM CDT	N
ianaTimeZone	IANA time code	string	Valid timezone	America/Chicago	Y
identifier	This is the checksum value uniquely identifies a bulletin	string	checksum	a463d8adbd563a981673b1beab2b04994e80078a	N
issueTimeLocal	Alert issuance time	string	valid date	2017-10-07T11:30:00-05:00	N
issueTimeLocalTimeZone	Time zone Abbreviation	string	valid timezone	CDT	N
latitude	centroid latitude of a location where the event occurs.	decimal		48.65	Y
longitude	centroid longitude of a location where event occurs.	decimal		-113.13	Y
messageType	The nature of the alert message	string	New - Initial information Update - Updates existing message Cancel - Cancels the earlier message	New	N
messageTypeCode	The nature of the alert message code	integer	1 - New 2 - Update 3 - Cancel	2	N

officeAdminDistrict	Office Admin District	string		Montana	Y
officeAdminDistrictCode	Issuing Office State Code	string		MT	Y
officeCode	Issuing Office code	string		KTFX	N
officeCountryCode	Issuing Office Country Code	string		US	Y
officeName	Issuing Office Name	string		Great Falls	Y
onsetTimeLocal	The onset date and time of the information in the alert message.	string	valid date	2017-10-07T17:30:00-05:00	Y
onsetTimeLocalTimeZone	Time Zone Abbreviation for onset time	string	valid timezone	EDT	Y
phenomena	Phenomena code of an event	string		TO	N
processTimeUTC	Alert process time in SUN	integer	valid unix time UTC	1475863030000	N
productIdentifier	Product Line Identifier	string	Refer Inbound PIL/Event Tab	TOR	N
severity	Severity of the subject event of the alert message	string	Extreme - Extraordinary threat to life or property Severe - Significant threat to life or property Moderate - Possible threat to life or property Minor – Minimal to no known threat to life or property Unknown - Severity unknown	Severe	N
severityCode	Severity code of the subject event of the alert message	integer	1 - Extreme 2 - Severe 3 - Moderate 4 - Minor 5 - Unknown	1	N
significance	Equated to Type - such as a Watch, Warning or Advisory	string		W	N
source	Originating source of alert	string		NWS	N
urgency	Urgency text	string	Immediate - Responsive action SHOULD be taken immediately Expected - Responsive action SHOULD be taken soon (within next hour) Future - Responsive action SHOULD be taken in the near future Past - Responsive action is no longer required Unknown - Urgency not known	Expected	N
urgencyCode	Urgency code	integer	1 - Immediate 2 - Expected 3 - Future 4 - Past 5 - Unknown	2	N
endTimeLocal	the date and time that a alert is expected to end. It may be null for indefinitely long events (in which case the headline will indicate that the event is “in effect”)	string	Valid date	2021-10-04T16:30:00-04:00	Y
endTimeLocalTimeZone	the time zone for endTimeLocal	string	Valid timezone	EDT	Y
endTimeUTC	the end date and time in UTC	integer	Valid unix time UTC	1633379400	Y
"category.object"		object			N
category	The category description of the subject event of the alert message	string	Geo - Geophysical (inc. landslide) Met - Meteorological (inc. flood) Safety - General emergency and public safety Security - Law enforcement, military, homeland and local/private	Met	N

			security Rescue - Rescue and recovery Fire - Fire suppression and rescue Health - Medical and public health Env - Pollution and other environmental Transport - Public and private transportation Infra - Utility, telecommunication, other non-transport infrastructure CBRNE – Chemical, Biological, Radiological, Nuclear or High-Yield Explosive threat or attack Other - Other events		
categoryCode	The code denoting the category of the subject event of the alert message	integer	1 - Geo 2 - Met 3 - Safety 4 - Security 5 - Rescue 6 - Fire 7 - Health 8 - Env 9 - Transport 10 - Infra 11 - CBRNE 12 - Other	2	N
"flood.object"		object			Y
floodCrestTimeLocal	Flood Crest date time	string	valid date	2017-10-07T21:30:00-05:00	Y
floodCrestTimeLocalTimeZone	Flood crest date time zone abbreviation	string	valid timezone	EDT	Y
floodEndTimeLocal	Flood End date time	string	valid date	2017-10-07T23:30:00-05:00	Y
floodEndTimeLocalTimeZone	Flood end date time zone abbreviation	string	valid timezone	EDT	Y
floodImmediateCause	Flood Immediate Cause description	string	Excessive Rainfall Snowmelt Rain and Snowmelt Dam or Levee Failure Ice Jam Glacier-Dammed Lake Outburst Rain and/or Snowmelt and/or Ice Jam Upstream Flooding plus Storm Surge Upstream Flooding plus Tidal Effects Elevated Upstream Flow plus Tidal Effects Wind and/or Tidal Effects Upstream Dam or Reservoir Release Other Multiple Causes Other Effects Unknown	Excessive Rainfall	Y
floodImmediateCauseCode	Flood Immediate Cause code	string	ER Excessive Rainfall SM Snowmelt RS Rain and Snowmelt DM Dam or Levee Failure IJ Ice Jam GO Glacier-Dammed Lake Outburst IC Rain and/or Snowmelt and/or Ice Jam FS Upstream Flooding plus Storm Surge	NO	Y

			FT Upstream Flooding plus Tidal Effects ET Elevated Upstream Flow plus Tidal Effects WT Wind and/or Tidal Effects DR Upstream Dam or Reservoir Release MC Other Multiple Causes OT Other Effects UU Unknown		
floodLocationId	Flood Location Identifier code	string	Any Valid NWS flood location identifier	SMBM8	Y
floodLocationName	Flood Location Identifier Name	string	Any valid NWS flood location identifier or N/A	Saint Mary River at International boundary	N
floodRecordStatus	Flood Record Status description	string	A record flood is not expected Near record or record flood expected Flood without a period of record to compare For areal flood warnings, areal flash flood products, and flood advisories (point and areal) N/A	Near record or record flood expected	N
floodRecordStatusCode	Flood Record Status code	string	NO A record flood is not expected NR Near record or record flood expected UU Flood without a period of record to compare OO For areal flood warnings, areal flash flood products, and flood advisories (point and areal)	NR	Y
floodSeverity	Flood Severity Description	string	None N/A Minor Moderate Major Unknown	1	Y
floodSeverityCode	Flood Severity Code	string	N None 0 N/A 1 Minor 2 Moderate 3 Major U Unknown	0	Y
floodStartTimeLocal	Flood Start date Time	string	valid date	2017-10-07T20:30:00-05:00	Y
floodStartTimeLocalTimeZone	Flood start date time zone abbeviation	string	valid timezone	EDT	Y
"responseTypes.object"		object			N
responseType	Description of action recommended for the target audience	string	Shelter – Take shelter in place or per instruction Evacuate – Relocate as instructed in the instruction Prepare – Make preparations per the instruction Execute – Execute a pre-planned activity identified in instruction Avoid – Avoid the subject event as per the instruction Monitor – Attend to information sources as described in instruction Assess – Evaluate the information in this message. (This value SHOULD NOT be used in public warning applications.) AllClear – The subject event no longer poses a threat or concern and any follow on action is described in <instruction> None – No action recommended	Evacuate	N
responseTypeCode	The code denoting the type of action recommended for the target audience	integer	1 - Shelter 2 - Evacuate 3 - Prepare	2	N

			4 - Execute 5 - Avoid 6 - Monitor 7 - Assess 8 - AllClear 9 - None		

JSON Sample Note: Sample response collapsed for presentation purposes.

The metadata section of the API response contains the attribute 'next'. if 'next' equals null the user has received all the data and is done. If 'next' is not null the user will need to make additional calls to the Alerts Headlines API - setting the 'next' parameter equal to the previously returned 'next' value. Keep calling the API until 'next' equals null.


```
{
        metadata:
        {
                next: 1480656647000
        },
        alerts:
        [
                {
                        detailKey: "044ca89c-ad4d-3a7c-ac03-dca5882cb342",
                        messageTypeCode: 1,
                        messageType: "New",
                        productIdentifier: "MWS",
                        phenomena: "MA",
                        significance: "S",
                        eventTrackingNumber: "1",
                        officeCode: "KMFL",
                        officeName: "Miami",
                        officeAdminDistrict: "Florida",
                        officeAdminDistrictCode: "FL",
                        officeCountryCode: "US",
                        eventDescription: "Marine Weather Statement",
                        severityCode: 4,
                        severity: "Minor",
                        categories:
                        [
                                {
                                        category: "Met",
                                        categoryCode: 2,
                                }
                        ],
                        responseTypes:
                        [
```

```
                        {
                                responseType: "Monitor",
                                responseTypeCode: 6,
                        }
                ],
                urgency: "Expected",
                urgencyCode: 2,
                certainty: "Observed",
                certaintyCode: 1,
                effectiveTimeLocal: null,
                effectiveTimeLocalTimeZone: null,
                expireTimeLocal: "2021-10-04T16:30:00-04:00",
                expireTimeLocalTimeZone: "EDT",
                expireTimeUTC: 1633379400,
                onsetTimeLocal: null,
                onsetTimeLocalTimeZone: null,
                flood: null,
                areaTypeCode: "Z",
                latitude: 26.59,
                longitude: -79.37,
                areaId: "AMZ670",
                areaName: "Waters from Jupiter Inlet to Deerfield Beach FL from 20 to 60 NM",
                ianaTimeZone: "America/New_York",
                adminDistrictCode: "",
                adminDistrict: null,
                countryCode: "US",
                countryName: "UNITED STATES OF AMERICA",
                headlineText: "Marine Weather Statement until MON 4:30 PM EDT",
                source: "National Weather Service",
                disclaimer: null,
                issueTimeLocal: "2021-10-04T15:35:00-04:00",
                issueTimeLocalTimeZone: "EDT",
                identifier: "7014b48832713fb8c8b9f0b932185abc",
                processTimeUTC: 1633376123,
                endTimeLocal: "2021-10-04T16:30:00-04:00",
                endTimeLocalTimeZone: "EDT",
                endTimeUTC: 1633379400,
                displayRank : 17,
        },
```


// response collapsed for presentation purposes

Significance Codes

Code	Description
A	Watch
B	Bulletin
L	Local Alerts
M	Message
O	Outlook
R	Report
S	Statement
W	Warning
Y	Advisory

JMA Significance Codes

Code	Description
Y	Advisory
W	Warning
E	Extreme

Alerts Event, Phenomena, Significance, & Threat Levels

Alert Classification	Event Description	Phenomena	Significance	Threat Level Color	Governmental Alert Issued By					
					Canada	Europe	Japan	USA	Australia	S. Korea
Air Quality	**Air Pollution Warning**	**TAP**	**W**	**O**				**USA**		
Air Quality	**Air Pollution Watch**	**TAP**	**A**	**Y**				**USA**		
Air Quality	**Air Quality Advisory**	**TAQ**	**Y**	**Y**				**USA**		

Air Quality	Air Quality Alert	TAQ	L	Y				USA		
Air Quality	Air Quality Warning	TAQ	W	O				USA		
Air Quality	Air Quality Watch	TAQ	A	Y				USA		
Air Quality	Air Stagnation Advisory	AS	Y	Y				USA		
Air Quality	Air Stagnation Outlook	AS	O	Y				USA		
Air Quality	Dust Advisory	DS	Y	Y				USA		
Air Quality	Ozone Action Day	TOZ	A	Y				USA		
Air Quality	Ozone Alert	TOZ	L	Y				USA		
Air Quality	Ozone Warning	TOZ	W	O				USA		
Air Quality	Air Quality and Health Advisory	airQuality	Y	Y	Canada					
Air Quality	Air Quality Warning	airQuality	W	O	Canada					
Air Quality	Smog Warning	smog	W	O	Canada					
Air Quality	Special Air Quality Statement	airQuality	S	Y	Canada					
Air Quality	Dry Air Advisory	DAR	Y	Y			Japan			
Air Quality	Dry Air Advisory	DW	Y	O						S. Korea
Air Quality	Dry Air Warning	DW	W	R						S. Korea
Air Quality	Fine Dust Advisory	FD	Y	O						S. Korea
Air Quality	Fine Dust Warning	FD	W	R						S. Korea

Avalanche	Avalanche Bulletin	TAV	M	Y				USA		
Avalanche	Avalanche Warning	TAV	W	O				USA		
Avalanche	Avalanche Watch	TAV	A	Y				USA		
Avalanche	Severe Warning for Avalanche	TAA	A	O		Europe				
Avalanche	Extreme Warning for Avalanche	TAA	W	R		Europe				
Avalanche	Moderate Warning for Avalanche	TAA	S	O		Europe				
Avalanche	Avalanche Advisory	AVL	Y	Y			Japan			
Coastal	Beach Hazard Statement	BH	S	Y				USA		
Coastal	Coastal Flood Advisory	CF	Y	Y				USA		
Coastal	Coastal Flood Statement	CF	S	Y				USA		
Coastal	Coastal Flood Warning	CF	W	O				USA		
Coastal	Coastal Flood Watch	CF	A	Y				USA		
Coastal	Coastal/Lakeshore Bulletin	TCL	B	Y				USA		
Coastal	Freezing Spray Advisory	ZY	Y	O				USA		
Coastal	Freezing Spray Advisory	UP	Y	O				USA		
Coastal	Gale Warning	GL	W	O				USA		
Coastal	Gale Watch	GL	A	Y				USA		
Coastal	Hazardous Seas Warning	SE	W	O				USA		

Coastal	Hazardous Seas Watch	SE	A	Y				USA		
Coastal	Heavy Freezing Spray Warning	UP	W	O				USA		
Coastal	Heavy Freezing Spray Watch	UP	A	Y				USA		
Coastal	High Surf Advisory	SU	Y	Y				USA		
Coastal	High Surf Warning	SU	W	O				USA		
Coastal	Hurricane Force Wind Warning	HF	W	R				USA		
Coastal	Hurricane Force Wind Watch	HF	A	Y				USA		
Coastal	Lake Wind Advisory	LW	Y	Y				USA		
Coastal	Lakeshore Flood Advisory	LS	Y	O				USA		
Coastal	Lakeshore Flood Statement	LS	S	Y				USA		
Coastal	Lakeshore Flood Warning	LS	W	O				USA		
Coastal	Lakeshore Flood Watch	LS	A	Y				USA		
Coastal	Low Water Advisory	LO	Y	Y				USA		
Coastal	Marine Weather Statement	MA	S	Y				USA		
Coastal	Rip Current Statement	RP	S	O				USA		
Coastal	Small Craft Advisory	SC	Y	Y				USA		
Coastal	Special Marine Warning	MA	W	O				USA		
Coastal	Storm Warning	SR	W	O				USA		

Coastal	Storm Watch	SR	A	Y				USA		
Coastal	Tsunami Advisory	TS	Y	O				USA		
Coastal	Tsunami Bulletin	TS	B	O				USA		
Coastal	Tsunami Warning	TS	W	R				USA		
Coastal	Tsunami Watch	TS	A	O				USA		
Coastal	Freezing Spray Warning	freezngSpray	W	O	Canada					
Coastal	Gale Warning	galeWind	W	O	Canada					
Coastal	High Water Level Warning	highWater	W	O	Canada					
Coastal	Hurricane Force Wind Warning	hurricFrcWnd	W	R	Canada					
Coastal	Ice Pressure Warning	icePressure	W	O	Canada					
Coastal	Rapid Closing of Coastal Leads Warning	rpdCloseLead	W	O	Canada					
Coastal	Special Ice Warning	spclIce	W	O	Canada					
Coastal	Special Marine Advisory	spclMarine	Y	Y	Canada					
Coastal	Special Marine Warning	spclMarine	W	O	Canada					
Coastal	Special Marine Watch	spclMarine	A	Y	Canada					
Coastal	Squall Warning	squall	W	R	Canada					
Coastal	Squall Watch	squall	A	O	Canada					
Coastal	Storm Warning	stormFrcWnd	W	R	Canada					

Coastal	Tsunami Advisory	tsunami	Y	O	Canada					
Coastal	Tsunami Warning	tsunami	W	R	Canada					
Coastal	Tsunami Watch	tsunami	A	O	Canada					
Coastal	Waterspout Warning	waterspout	W	O	Canada					
Coastal	Waterspout Watch	waterspout	A	Y	Canada					
Coastal	Severe Warning for Coastal Event	TCW	A	O		Europe				
Coastal	Extreme Warning for Coastal Event	TCW	W	R		Europe				
Coastal	Moderate Warning for Coastal Event	TCW	S	O		Europe				
Coastal	Gale Advisory	GA	Y	Y			Japan			
Coastal	High Wave Advisory	HW	Y	Y			Japan			
Coastal	High Wave Warning	HW	W	R			Japan			
Coastal	High-Wave Emergency	HW	E	P			Japan			
Coastal	Gale Warning	MWW-GALE	W	O					Australia	
Coastal	Hazardous Surf Warning	HSW-STD	W	O					Australia	
Coastal	Hurricane Force Wind Warning	MWW-HURR	W	O					Australia	
Coastal	Marine Wind Warning	MWW	W	O					Australia	
Coastal	Severe Weather Warning for Abnormally High Tide	SWW-HT-STD	W	O					Australia	
Coastal	Severe Weather Warning for	SWW-DS-STD	W	O					Australia	

	Damaging Surf									
Coastal	Small Craft Alert	MWW-SMCRFT	W	O					Australia	
Coastal	Storm Force Wind Warning	MWW-STO	W	O					Australia	
Coastal	Strong Wind Warning	MWW-STR	W	O					Australia	
Coastal	Tsunami Bulletin	TSUNAMI-STD	S	O					Australia	
Coastal	Tsunami Statement	TSUNAMI-NOTHRT	S	Y					Australia	
Coastal	Tsunami Warning	TSUNAMI-WARN	W	O					Australia	
Coastal	Tsunami Watch	TSUNAMI-WATCH	A	Y					Australia	
Coastal	Wind Wave Advisory	WV	Y	O						S. Korea
Coastal	Wind Wave Warning	WV	W	R						S. Korea
Miscellaneous	911 Telephone Outage Emergency	TNO	L	Y				USA		
Miscellaneous	Administrative Message	TAD	M	Y				USA		
Miscellaneous	Airport Weather Warning	TAW	W	Y				USA		
Miscellaneous	Child Abduction Emergency	TCA	L	Y				USA		
Miscellaneous	Civil Danger Warning	TCD	W	O				USA		
Miscellaneous	Civil Emergency Message	TCE	M	Y				USA		
Miscellaneous	Earthquake Warning	TEQ	W	O				USA		
Miscellaneous	Evacuation Immediate Bulletin	TEV	L	O				USA		

Miscellaneous	Fire Warning	TFI	W	O				USA		
Miscellaneous	Fire Weather Bulletin	FW	B	Y				USA		
Miscellaneous	Fire Weather Watch	FW	A	Y				USA		
Miscellaneous	Hazardous Materials Warning	THM	W	O				USA		
Miscellaneous	Law Enforcement Warning	TLA	W	O				USA		
Miscellaneous	Local Area Emergency	TLC	L	O				USA		
Miscellaneous	Network Message Notification	TNM	L	Y				USA		
Miscellaneous	Nuclear Power Plant Warning	TNU	W	R				USA		
Miscellaneous	Radiological Hazard Warning	TRH	W	O				USA		
Miscellaneous	Red Flag Warning	FW	W	Y				USA		
Miscellaneous	Shelter In Place Warning	TSP	W	O				USA		
Miscellaneous	Special Weather Statement	TSL	S	O				USA		
Miscellaneous	Volcano Warning	TVO	W	O				USA		
Miscellaneous	Weather Bulletin	TWX	B	Y				USA		
Miscellaneous	Special Weather Statement	weather	S	O	Canada					
Miscellaneous	Weather Advisory	weather	Y	O	Canada					
Miscellaneous	Weather Warning	weather	W	O	Canada					
Miscellaneous	Severe Warning for Forest Fire	TFF	A	O		Europe				

Miscellaneous	Extreme Warning for Forest Fire	TFF	W	O		Europe				
Miscellaneous	Moderate Warning for Forest Fire	TFF	S	Y		Europe				
Miscellaneous	Other Advisories	OT	Y	Y			Japan			
Miscellaneous	Brown Rot Alert	BRA-STV	W	O					Australia	
Miscellaneous	Bushwalkers Alert	BWA-STD	W	O					Australia	
Miscellaneous	Catastrophic Fire Weather Warning	FWW-CAT	W	O					Australia	
Miscellaneous	Downy Mildew Advice	DMA-STD	W	O					Australia	
Miscellaneous	Extreme Fire Weather Warning	FWW-EXT	W	O					Australia	
Miscellaneous	Fire Weather Warning	FWW-STD	W	O					Australia	
Miscellaneous	Marginal Fire Weather Warning	FWW-MARG	W	O					Australia	
Miscellaneous	Road Weather Alert	RWA-STD	W	O					Australia	
Miscellaneous	Road Weather Alert for slippery roads	RWA-SL-STD	W	O					Australia	
Miscellaneous	Severe Brown Rot Alert	BRA-SEV	W	O					Australia	
Miscellaneous	Severe Downy Mildew Advice	DMA-SEV	W	O					Australia	
Miscellaneous	Severe Fire Weather Warning	FWW-SEV	W	O					Australia	
Miscellaneous	Severe Sheep Graziers Warning	SHW-SEV	W	O					Australia	
Miscellaneous	Sheep Graziers Warning	SHW-STD	W	O					Australia	
Miscellaneous	Very High Fire Weather Warning	FWW-VH	W	O					Australia	

Rain/Flood	Flash Flood Statement	FF	S	R				USA		
Rain/Flood	Flash Flood Warning	FF	W	R				USA		
Rain/Flood	Flash Flood Watch	FF	A	O				USA		
Rain/Flood	Flood Advisory	FA	Y	O				USA		
Rain/Flood	Flood Bulletin	FA	B	O				USA		
Rain/Flood	Flood Warning	FA	W	R				USA		
Rain/Flood	Flood Watch	FA	A	O				USA		
Rain/Flood	Hydrologic Outlook	TSF	O	Y				USA		
Rain/Flood	Hydrologic Statement	HY	S	O				USA		
Rain/Flood	River Flood Advisory	FL	Y	O				USA		
Rain/Flood	River Flood Warning	FL	W	R				USA		
Rain/Flood	River Flood Watch	FL	A	O				USA		
Rain/Flood	Rainfall Warning	rainfall	W	O	Canada					
Rain/Flood	Severe Warning for Flood	TFL	A	O		Europe				
Rain/Flood	Severe Warning for Rain	TRA	A	Y		Europe				
Rain/Flood	Severe Warning for Rain and Flood	TRF	A	O		Europe				
Rain/Flood	Extreme Warning for Flood	TFL	W	R		Europe				
Rain/Flood	Extreme Warning for Rain	TRA	W	O		Europe				

Rain/Flood	Extreme Warning for Rain and Flood	TRF	W	R		Europe				
Rain/Flood	Moderate Warning for Flood	TFL	S	O		Europe				
Rain/Flood	Moderate Warning for Rain	TRA	S	Y		Europe				
Rain/Flood	Moderate Warning for Rain and Flood	TRF	S	O		Europe				
Rain/Flood	Flood Advisory	FL	Y	Y			Japan			
Rain/Flood	Flood Warning	FL	W	R			Japan			
Rain/Flood	Heavy Rain Emergency	RF	E	P			Japan			
Rain/Flood	Heavy Rainfall Advisory	RF	Y	Y			Japan			
Rain/Flood	Heavy Rainfall Warning	RF	W	Y			Japan			
Rain/Flood	Final Flood Warning	FLW-FINAL	W	O					Australia	
Rain/Flood	Final Flood Watch	FLA-FINAL	A	O					Australia	
Rain/Flood	Flood Warning	FLW-UNCL	W	O					Australia	
Rain/Flood	Flood Watch	FLA-WATCH	A	O					Australia	
Rain/Flood	Initial Flood Watch	FLA-UNK	A	O					Australia	
Rain/Flood	Initial Minor Flood Warning	FLW-BLWMIN	W	O					Australia	
Rain/Flood	Initial Minor Flood Watch	FLA-BLWMIN	A	O					Australia	
Rain/Flood	Major Flood Warning	FLW-MAJ	W	O					Australia	
Rain/Flood	Major Flood Watch	FLA-MAJ	A	O					Australia	

Rain/Flood	Minor Flood Warning	FLW-MIN	W	O					Australia	
Rain/Flood	Minor Flood Watch	FLA-MIN	A	O					Australia	
Rain/Flood	Minor to Major Flood Watch	FLA-MINMAJ	A	O					Australia	
Rain/Flood	Minor to Moderate Flood Watch	FLA-MINMOD	A	O					Australia	
Rain/Flood	Moderate Flood Warning	FLW-MOD	W	O					Australia	
Rain/Flood	Moderate Flood Watch	FLA-MOD	A	O					Australia	
Rain/Flood	Moderate to Major Flood Watch	FLA-MODMAJ	A	O					Australia	
Rain/Flood	Road Weather Alert for flooding	RWA-FL-STD	W	O					Australia	
Rain/Flood	Road Weather Alert for Heavy Rain	RWA-RA-STD	W	O					Australia	
Rain/Flood	Severe Thunderstorm for Intense Rainfall	STW-R+-STD	W	O					Australia	
Rain/Flood	Severe Thunderstorm Warning for Flash Flooding	STW-FF-STD	W	O					Australia	
Rain/Flood	Severe Thunderstorm Warning for Heavy Rainfall	STW-R-STD	W	O					Australia	
Rain/Flood	Severe Weather Warning for Flash Flooding	SWW-FF-STD	W	O					Australia	
Rain/Flood	Severe Weather Warning for Heavy Rainfall	SWW-R-STD	W	O					Australia	
Rain/Flood	Severe Weather Warning for	SWW-R+-STD	W	O					Australia	

	Intense Rainfall									
Rain/Flood	Heavy Rain Advisory	HR	Y	O						S. Korea
Rain/Flood	Heavy Rain Warning	HR	W	R						S. Korea
Temperature	Excessive Heat Warning	EH	W	O				USA		
Temperature	Excessive Heat Watch	EH	A	Y				USA		
Temperature	Extreme Cold Warning	EC	W	O				USA		
Temperature	Extreme Cold Watch	EC	A	Y				USA		
Temperature	Freeze Warning	FZ	W	O				USA		
Temperature	Freeze Watch	FZ	A	Y				USA		
Temperature	Frost Advisory	FR	Y	Y				USA		
Temperature	Heat Advisory	HT	Y	Y				USA		
Temperature	Cold Weather Advisory	CW	Y	Y				USA		
Temperature	Arctic Outflow Warning	arcticOut	W	O	Canada					
Temperature	Extreme Cold Warning	extremeCold	W	R	Canada					
Temperature	Flash Freeze Warning	flashFreeze	W	O	Canada					
Temperature	Frost Advisory	frost	Y	Y	Canada					
Temperature	Heat Warning	extremeHeat	W	O	Canada					
Temperature	Severe Warning for High Temperature	THT	A	Y		Europe				

Temperature	Severe Warning for Low Temperature	TLT	A	O		Europe				
Temperature	Extreme Warning for High Temperature	THT	W	O		Europe				
Temperature	Extreme Warning for Low Temperature	TLT	W	R		Europe				
Temperature	Moderate Warning for High Temperature	THT	S	O		Europe				
Temperature	Moderate Warning for Low Temperature	TLT	S	Y		Europe				
Temperature	Low Temperature Advisory	LT	Y	Y			Japan			
Temperature	Bushwalkers Alert for chill conditions	BWA-CH-STD	W	O					Australia	
Temperature	Extreme Heat Warning	EXTREMEHEAT-WARN	W	O					Australia	
Temperature	Extreme Heat Watch	EXTREMEHEAT-WATCH	A	Y					Australia	
Temperature	Frost Warning	FRW-STD	W	O					Australia	
Temperature	Severe Frost Warning	FRW-SEV	W	O					Australia	
Temperature	Cold Wave Advisory	CW	Y	O						S. Korea
Temperature	Cold Wave Warning	CW	W	R						S. Korea
Temperature	Heat Wave Advisory	HT	Y	O						S. Korea
Temperature	Heat Wave Warning	HT	W	R						S. Korea
Thunderstorm	Severe Thunderstorm	SV	W	R				USA		

	Warning									
Thunderstorm	Severe Thunderstorm Watch	SV	A	O				USA		
Thunderstorm	Severe Weather Warning	TSA	W	R				USA		
Thunderstorm	Severe Weather Watch	TSA	A	O				USA		
Thunderstorm	Tornado Warning	TO	W	R				USA		
Thunderstorm	Tornado Watch	TO	A	O				USA		
Thunderstorm	Severe Thunderstorm Warning	thunderstorm	W	R	Canada					
Thunderstorm	Severe Thunderstorm Watch	thunderstorm	A	O	Canada					
Thunderstorm	Tornado Warning	tornado	W	R	Canada					
Thunderstorm	Tornado Watch	tornado	A	O	Canada					
Thunderstorm	Severe Warning for Thunderstorm	TTS	A	O		Europe				
Thunderstorm	Extreme Warning for Thunderstorm	TTS	W	R		Europe				
Thunderstorm	PModerate Warning for Thunderstorm	TTS	S	O		Europe				
Thunderstorm	Thunderstorm Advisory	TDS	Y	Y			Japan			
Thunderstorm	Severe Thunderstorm Warning	STW-STD	W	O					Australia	
Thunderstorm	Severe Thunderstorm Warning for Damaging Wind	STW-W-STD	W	O					Australia	

Thunderstorm	Severe Thunderstorm Warning for Destructive Wind	STW-W+-STD	W	O					Australia	
Thunderstorm	Severe Thunderstorm Warning for Giant Hail	STW-GH-STD	W	O					Australia	
Thunderstorm	Severe Thunderstorm Warning for Large Hail	STW-LH-STD	W	O					Australia	
Thunderstorm	Severe Thunderstorm Warning for Tornadoes	STW-TO-STD	W	O					Australia	
Thunderstorm	Severe Weather Warning	SWW-STD	W	O					Australia	
Thunderstorm	Severe Weather Warning for Damaging Wind	SWW-W-STD	W	O					Australia	
Thunderstorm	Severe Weather Warning for Destructive Wind	SWW-W+-STD	W	O					Australia	
Thunderstorm	Severe Weather Warning for Large Hail	SWW-LH-STD	W	O					Australia	
Thunderstorm	Severe Weather Warning for Tornadoes	SWW-TO-STD	W	O					Australia	
Tropical	Hurricane Warning	HU	W	R				USA		
Tropical	Hurricane Watch	HU	A	O				USA		
Tropical	Storm Surge Warning	SS	W	O				USA		
Tropical	Storm Surge Watch	SS	A	Y				USA		

Tropical	Tropical Cyclone Statement	HU	S	Y				USA		
Tropical	Tropical Storm Warning	TR	W	R				USA		
Tropical	Tropical Storm Watch	TR	A	O				USA		
Tropical	Tropical Weather Statement	HU	S	Y				USA		
Tropical	Tropical Weather Statement	TTP	S	O				USA		
Tropical	Typhoon Local Statement	TY	S	R				USA		
Tropical	Typhoon Statement	TY	S	R				USA		
Tropical	Typhoon Warning	TY	W	R				USA		
Tropical	Typhoon Watch	TY	A	O				USA		
Tropical	Hurricane Warning	hurricane	W	R	Canada					
Tropical	Hurricane Watch	hurricane	A	O	Canada					
Tropical	Storm Surge Warning	stormSurge	W	R	Canada					
Tropical	Tropical Storm Statement	tropStorm	S	O	Canada					
Tropical	Tropical Storm Warning	tropStorm	W	R	Canada					
Tropical	Tropical Storm Watch	tropStorm	A	O	Canada					
Tropical	Storm Surge Advisory	SSG	Y	Y			Japan			
Tropical	Storm Surge Emergency	SSG	E	P			Japan			
Tropical	Storm Surge Warning	SSG	W	R			Japan			

Tropical	Tropical Cyclone Bulletin	TROPCYCLONE-STD	S	O					Australia	
Tropical	Tropical Cyclone Warning	TROPCYCLONE-WARN	W	O					Australia	
Tropical	Tropical Cyclone Watch	TROPCYCLONE-WATCH	A	Y					Australia	
Tropical	Storm Surge advisory	SS	Y	O						S. Korea
Tropical	Storm Surge Warning	SS	W	R						S. Korea
Tropical	Typhoon Advisory	TY	Y	O						S. Korea
Tropical	Typhoon Warning	TY	W	R						S. Korea
Visibility	Ashfall Advisory	AF	Y	Y				USA		
Visibility	Ashfall Advisory	MH	Y	Y				USA		
Visibility	Ashfall Warning	AF	W	O				USA		
Visibility	Ashfall Warning	MH	W	O				USA		
Visibility	Blowing Dust Advisory	DU	Y	Y				USA		
Visibility	Blowing Dust Warning	DU	W	O				USA		
Visibility	Dense Fog Advisory	FG	Y	Y				USA		
Visibility	Dense Fog Advisory	MF	Y	O				USA		
Visibility	Dense Smoke Advisory	MS	Y	O				USA		
Visibility	Dense Smoke Advisory	SM	Y	O				USA		
Visibility	Dust Storm Warning	DS	W	O				USA		

Visibility	Dust Storm Warning	dustStorm	W	O	Canada					
Visibility	Fog Advisory	other	Y	O	Canada					
Visibility	Severe Warning for Fog	TFA	A	O		Europe				
Visibility	Extreme Warning for Fog	TFA	W	R		Europe				
Visibility	Moderate Warning for Fog	TFA	S	O		Europe				
Visibility	Dense Fog Advisory	DFG	Y	Y			Japan			
Visibility	Road Weather Alert for Dust	RWA-DU-STD	W	O					Australia	
Visibility	Road Weather Alert for fog	RWA-FG-STD	W	O					Australia	
Visibility	Road Weather Alert for Smoke	RWA-SM-STD	W	O					Australia	
Wind	Brisk Wind Advisory	BW	Y	Y				USA		
Wind	Extreme Wind Warning	EW	W	R				USA		
Wind	High Wind Warning	HW	W	O				USA		
Wind	High Wind Watch	HW	A	Y				USA		
Wind	Wind Advisory	WI	Y	Y				USA		
Wind	Les Suêtes Wind Warning	lsWind	W	R	Canada					
Wind	Strong Wind Warning	strongWind	W	R	Canada					
Wind	Wind Warning	wind	W	O	Canada					
Wind	Wreckhouse Wind Warning	whWind	W	R	Canada					

Wind	Severe Warning for Wind	TWA	A	O		Europe				
Wind	Extreme Warning for Wind	TWA	W	O		Europe				
Wind	Moderate Warning for Wind	TWA	S	Y		Europe				
Wind	Wind Storm Emergency	WS	E	P			Japan			
Wind	Windstorm Warning	WS	W	R			Japan			
Wind	Road Weather Alert for Damaging Wind	RWA-W-STD	W	O					Australia	
Wind	Road Weather Alert for Destructive Wind	RWA-W+-STD	W	O					Australia	
Wind	Strong Wind Advisory	SW	Y	O						S. Korea
Wind	Strong Wind Warning	SW	W	R						S. Korea
Winter Precipitation	Blizzard Warning	BZ	W	R				USA		
Winter Precipitation	Freezing Fog Advisory	ZF	Y	O				USA		
Winter Precipitation	Ice Storm Warning	IS	W	R				USA		
Winter Precipitation	Lake Effect Snow Warning	LE	W	R				USA		
Winter Precipitation	Snow Squall Warning	SQ	W	R				USA		
Winter Precipitation	Winter Storm Warning	WS	W	R				USA		
Winter Precipitation	Winter Storm Watch	WS	A	O				USA		
Winter Precipitation	Winter Weather Advisory	WW	Y	O				USA		

Winter Precipitation	Winter Weather Bulletin	WW	B	O				USA		
Winter Precipitation	Blizzard Warning	blizzard	W	R	Canada					
Winter Precipitation	Blowing Snow Advisory	blowingSnow	Y	O	Canada					
Winter Precipitation	Freezing Drizzle Advisory	freezeDrzl	Y	O	Canada					
Winter Precipitation	Freezing Rain Warning	freezeRain	W	R	Canada					
Winter Precipitation	Snow Squall Warning	snowSquall	W	R	Canada					
Winter Precipitation	Snow Squall Watch	snowSquall	A	O	Canada					
Winter Precipitation	Snowfall Warning	snowfall	W	R	Canada					
Winter Precipitation	Winter Storm Warning	winterStorm	W	R	Canada					
Winter Precipitation	Winter Storm Watch	winterStorm	A	O	Canada					
Winter Precipitation	Severe Warning for Snow or Ice	TSI	A	O		Europe				
Winter Precipitation	Extreme Warning for Snow or Ice	TSI	W	R		Europe				
Winter Precipitation	Moderate Warning for Snow or Ice	TSI	S	O		Europe				
Winter Precipitation	Frost Advisory	FR	Y	Y			Japan			
Winter Precipitation	Gale and Snow Advisory	SNG	Y	Y			Japan			
Winter Precipitation	Heavy Snowfall Advisory	SNF	Y	Y			Japan			
Winter Precipitation	Heavy Snowfall Emergency	SNF	E	P			Japan			
Winter Precipitation	Heavy Snowfall Warning	SNF	W	Y			Japan			

Winter Precipitation	Ice Accretion Advisory	ICA	Y	Y			Japan			
Winter Precipitation	Snow Accretion Advisory	SNA	Y	Y			Japan			
Winter Precipitation	Snow Storm Emergency	SNS	E	P			Japan			
Winter Precipitation	Snow-melting Advisory	SNM	Y	Y			Japan			
Winter Precipitation	Snowstorm Warning	SNS	W	R			Japan			
Winter Precipitation	Bushwalkers Alert for Snow	BWA-SN-STD	W	O					Australia	
Winter Precipitation	Road Weather Alert for icing	RWA-IC-STD	W	O					Australia	
Winter Precipitation	Road Weather Alert for snow	RWA-SN-STD	W	O					Australia	
Winter Precipitation	Severe Weather Warning for Blizzard	SWW-BZ-STD	W	O					Australia	
Winter Precipitation	Heavy Snow Advisory	HS	Y	O						S. Korea
Winter Precipitation	Heavy Snow Warning	HS	W	R						S. Korea

Tsunami Zones Exceptions:

Tsunami warnings are issued by **Joint Australian Tsunami Warning Centre (JATWC)** for Australian coastal locations and offshore territories. It also issues warnings for Antarctica. Below are some of the locations for which country code is not Australia for which JATWC issues tsunami warnings.

Islands in Australia:

These have a different ISO code than mainland Australia. It should be noted that when using “Alerts By Country” API and using code as “AU” will not return alerts for these islands.

Zone ID	Zone Name	Zone Type	ISO Country Code	Geocode

CC_TW001	Cocos Island	Tsunami	CC	-12.1131, 96.8830
CX_TW001	Christmas Island	Tsunami	CX	-10.4132, 105.6670
NF_TW001	Norfolk Island	Tsunami	NF	-29.0624, 167.9330
NSW_PT245	Norfolk Island	PointPlaces	NF	-29.0389, 167.9408

Antarctica:

For these locations, Location Master will not resolve the geocode to any location. There are no mappings defined for these geocodes and therefore “Alerts By Geocode” will not return any data for these locations. Alerts will return data for these locations when using “Alerts By Country” and “Alerts By Area”.

Zone ID	Zone Name	Zone Type	ISO Country Code	Geocode
AQ_TW001	Antarctica	Tsunami	AQ	-67.6012, 62.8752
AQ_TW002	Antarctica	Tsunami	AQ	-66.2820, 110.5230
AQ_TW003	Antarctica	Tsunami	AQ	-68.5769, 77.9671

Appendix A : displayRank

This is an internal ranking by The Weather Company based on multiple factors that can change. It is not an official ranking by the government agencies from which these alerts originate. This field is intended for The Weather Company Properties. Use of the field is solely at your own risk.

displayRank provides a suggested display order for alerts when more than one alert is active for a location. For example, in a list view on an application, alerts with a lower displayRank integer value (ex: 17) would be listed first followed by alerts with a higher displayRank integer value (ex: 207). You should retrieve all Alerts (repeated calls to the API until next is null) prior to sorting by displayRank.

displayRank is populated for all location query types (country, state, areaId and latitude/longitude) but is intended primarily for use with latitude/longitude based queries.

You should not make any assumptions regarding a displayRank association to a specific event type - these associations will change without notice as we add new products.

Historical Data for Analytical Tooling - v3 - r2

Domain Portfolio: Observations | Domain: Historical | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The "Historical Data for Analytical Tooling" API outputs training data for use by Data Science teams to perform Initial Data Exploration and train Machine Learning models.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Details

Once models are trained using data provided by this API, Predictive Analytics is often performed using the forecast counterpart of this API, Forecast Data for Analytical Tooling. The data provided by this API consists of the Average, Max and Min values, for each of 7 daily “periods” (expressed in local time relative to the postalKey or geolocation supplied in the call), for each of the specified weather aspects (“products”), for each day in the date range specified in the call. See Appendix A: Daily Aggregation Periods for a visualization of these aggregations and the daily periods over which they occur.

New data arrives hourly, and min/max/avg values for a given “daypart” (daily “period”) become available as soon as there are sufficient hours of data to compute them. The lag time of data availability is approximately 2 hours. The data used in this API is composed of 11 products from the gCOD (gridded Currents on Demand) dataset. Datasets, and even weather products within datasets, have varying start dates, as can be seen in the Data Dictionary for Product IDs section of this document. Given that the dayparts need certain hours of data to compute their min/max/avg values, and that a given queried point will imply an offset from Zulu time, it is important to note that queries near the arrival of a product in a dataset may have incomplete dayparts which would not be present in the response.

A paging mechanism is employed to allow clients to fetch years of historical data while keeping individual HTTP transactions within a time period that Weather’s authentication mechanisms will allow. On the first request the **next** query parameter is omitted or empty. If the request results in too much data to be satisfied in a single HTTP transaction a **X-Next-Token** header is returned in the HTTP response. This token may be echoed to subsequent calls to the same URL to fetch subsequent data. When no data remains to be fetched the **X-Next-Token** is not set.

This API only supplies a CSV response. The CSV response is formatted such that the first row of data defines the columns for all subsequent values. It is up to the client to determine how to handle entries for which there was no data (e.g. if not all weather products were selected). See Appendix B: CSV Sample and Appendix C: CSV Column Titles.

The products endpoint can be used to discover valid values for the productId parameter to the data endpoint. The (case-insensitive) word “all” can be used to include all available products in the response.

The characteristics of the underlying data can be found in a subsection of the HoD Utility API description.

For periods where there is no data, the data will be represented by an empty field. For averaged time periods, the average is derived from the hourly samples that are collected and does not include periods where no data is collected. For more, see: Quick Reference and Best Practices.

URL Construction

Atomic API URL Examples:
Data Request by Geocode: Required Parameters: geocode, productId, language, units, format, apiKey, startDate, endDate | Optional Parameter: next
https://api.weather.com/v3/wx/observations/historical/analytical/r2?**geocode=39.86,-104.67&productId=Temperature&startDate=20170101&endDate=20170630**&language=en-US&units=s&**format=csv&apiKey=yourApiKey**
Data Request by Postal Key: Required Parameters: postalKey, productId, language, units, format, apiKey ,startDate, endDate, | Optional Parameter: next
https://api.weather.com/v3/wx/observations/historical/analytical/r2?**postalKey=81657:US&productId=Temperature&startDate=20170101&endDate=20170630**&language=en-US&units=s&**format=csv&apiKey=yourApiKey**
Product Discovery: Required Parameters: apiKey
https://api.weather.com/v3/wx/observations/historical/analytical/r2/products?**apiKey=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
postalKey	81657:US	Colon-delimited Postal code and Country Code combination
productId	Dewpoint, FeelsLike, Gust, MSLP, PrecipAmount, RelativeHumidity, SnowAmount, Temperature, UVIndex, Visibility, WindSpeed	Weather aspect for which aggregate values are to be retrieved. Can be individual (single) product, comma delimited list of multiple products, or the (case-insensitive) word “all” to get them all. Derived from /products endpoint
startDate	20180101	ISO8601 formatted date
endDate	20180101	ISO8601 formatted date
next	20180101 or empty	Page token
language	en-US	Only en-US supported at this time
units	s (SI: Système international d'unités)	The unit system in which numerical values should be expressed
format	csv	Output format = csv is valid

Data Dictionary for Product IDs

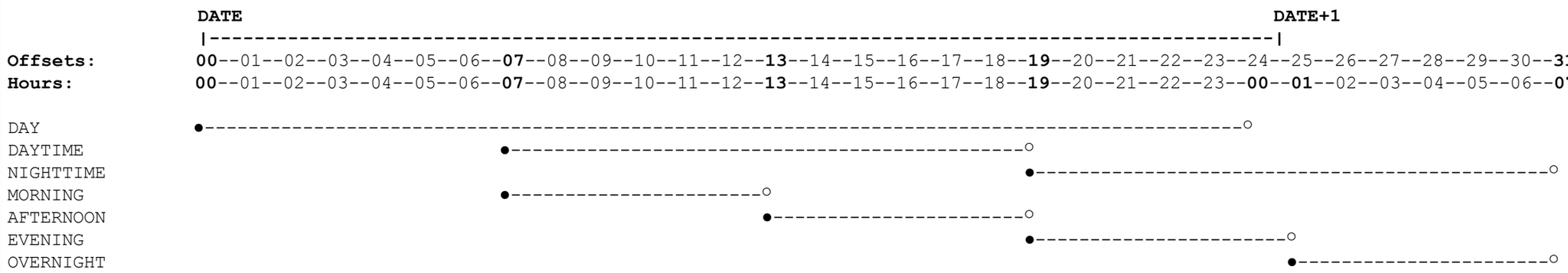
Weather Variable	Description	Unit
MSLP	Hourly mean sea level pressure. Archive begins from July 17, 2017	Pa
RelativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	%
Temperature	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements.	K
UVIndex	UV index 0 to 2 is Low, 3 to 5 is Moderate, 6 to 7 is High, 8 to 10 is Very High, 11 to 16 is Extreme	Enumerated Integer
Dewpoint	The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dewpoint and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	K
FeelsLike	feels like temperature. An apparent temperature. It represents what the air temperature "feels like" on exposed human skin due to the combined effect of the wind chill or heat index.	K
WindSpeed	The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as "wind gusts" and are reported in a separate data field (gust).	m/s
Visibility	The horizontal visibility at the observation point. Visibilities can be reported as fractional values particularly when visibility is less than 2 miles. Visibilities greater than 10 statute miles(16.1 kilometers) which are considered “unlimited” are reported as “999”; in your feed. You can also find visibility values that equal zero. This occurrence is not wrong. Dense fogs and heavy snows can produce values near zero. Fog, smoke, heavy rain and other weather phenomena can reduce visibility to near zero miles or kilometers.	m
Gust	The maximum expected wind gust speed.	m/s
PrecipAmount	Millimeters of precipitation occurring in the hour queried	mm
SnowAmount	Meters of snow occurring in the hour queried	m

HTTP Headers/Data Elements & Definitions (See below for full list of headers)

Header/Field Name	Description	Type	Range	Sample	Nulls Allowed
X-Next-Token	An opaque string that the caller of the HDAT api may include as the query parameter **next** to fetch data that could not be returned in an earlier data request. By “opaque” we mean that the string shall have no necessary meaning to the caller other than that it was returned by the HDAT service and may be echoed back to that service to continue data iteration. The empty string submitted as a request shall mean that the first page of data is desired. The empty string returned as a response shall mean that no further data is available.	[string]	Any valid HTTP header string.	20180101	Y

Appendix A: Daily Aggregation Periods

"DATE" = DATE the aggregations are referred to as being created for
Below is a depiction of the semantics that both Historical and Forecast Aggregations will use when considering the time ranges for that **"DATE"**



Appendix B: CSV Sample

All numerical data are decimal numbers.

date	postalKey	latitude	longitude	DewpointLocal DayAvg	DewpointLocal DayMax	DewpointLocal DayMin	DewpointLocal DaytimeAvg	DewpointLocal DaytimeMax	DewpointLocal DaytimeMin	DewpointLocal NighttimeAvg	DewpointLocal NighttimeMax	DewpointLocal NighttimeMin	DewpointLocal MorningAvg	DewpointLocal MorningMax	DewpointLocal MorningMin	DewpointLocal AfternoonAvg	DewpointLocal AfternoonMax	Dew fter
2018-09-19	53719:US	43.03095817	-89.51221458	63.875	66	62	63.75	65	62	65.58333333	66	65	62.83333333	63	62	64.66666667	65	
2018-09-20	53719:US	43.03095817	-89.51221458	68.125	71	65	69.41666667	71	66	66.91666667	69	62	68.83333333	70	66	70	71	
2018-09-21	53719:US	43.03095817	-89.51221458	54.95833333	68	45	52.33333333	60	46	44.41666667	47	42	56.16666667	60	53	48.5	52	
2018-09-22	53719:US	43.03095817	-89.51221458	45.83333333	49	42	46.33333333	48	43	48	49	47	45.16666667	47	43	47.5	48	
2018-09-23	53719:US	43.03095817	-89.51221458	52.08333333	56	47	53.16666667	56	47	54.16666667	56	52	51.16666667	54	47	55.16666667	56	
2018-09-24	53719:US	43.03095817	-89.51221458	56.33333333	60	52	56.75	59	52	60.08333333	61	59	55	58	52	58.5	59	
2018-09-25	53719:US	43.03095817	-89.51221458	59.08333333	61	56	58.75	60	56	58	59	56	59.66666667	60	59	57.83333333	60	
2018-09-26	53719:US	43.03095817	-89.51221458	54.29166667	59	49	53.83333333	59	49	48.75	51	46	57	59	55	50.66666667	53	
2018-09-27	53719:US	43.03095817	-89.51221458	46.25	49	43	45.66666667	48	43	45.33333333	46	44	47	48	45	44.33333333	46	
2018-09-28	53719:US	43.03095817	-89.51221458	44.79166667	46	43	44.75	46	43	43.16666667	45	41	45.5	46	43	44	45	
2018-09-29	53719:US	43.03095817	-89.51221458	42.20833333	44	40	42.41666667	44	40	41.16666667	42	40	43.33333333	44	41	41.5	43	
2018-09-30	53719:US	43.03095817	-89.51221458	41.70833333	43	40	41.83333333	43	40	42.66666667	43	42	42.16666667	43	40	41.5	42	
2018-10-01	53719:US	43.03095817	-89.51221458	43.25	45	42	43.58333333	45	42	43.08333333	44	42	44.16666667	45	42	43	44	
2018-10-02	53719:US	43.03095817	-89.51221458	44.29166667	46	42	45	46	43	43.83333333	45	42	45.16666667	46	43	44.83333333	46	

Appendix C: CSV Column Titles

The CSV columns are: date, postalKey, latitude, longitude, followed by the distribution of the requested weather aspects over 7 aggregation periods over 3 aggregation values (Avg, Max, Min). Note: All columns with the time period of 'LocalDay' record a 'day' from midnight to midnight. All other columns represent a 'day' as 7 am to 7 am. There will always be the 1st 5 columns of:

```
date, geoType, geoTypeId, latitude, longitude
```

followed by columns named by the "word product" of: `[Weather Variable] x "Local" x [Day Part Title] x ["Avg" | "Max" | "Min"]`

So, if you only specified productId=Dewpoint, the column titles of the resulting csv (following the 1st 5 above) would be:

```
DewpointLocalDayAvg,        DewpointLocalDayMax,        DewpointLocalDayMin,
DewpointLocalDaytimeAvg,    DewpointLocalDaytimeMax,    DewpointLocalDaytimeMin,
DewpointLocalNighttimeAvg,  DewpointLocalNighttimeMax,  DewpointLocalNighttimeMin,
DewpointLocalMorningAvg,    DewpointLocalMorningMax,    DewpointLocalMorningMin,
DewpointLocalAfternoonAvg,  DewpointLocalAfternoonMax,  DewpointLocalAfternoonMin,
DewpointLocalEveningAvg,    DewpointLocalEveningMax,    DewpointLocalEveningMin,
DewpointLocalOvernightAvg,  DewpointLocalOvernightMax,  DewpointLocalOvernightMin
```

Tropical Forecast - Cone v3.0
Document Version 1.1

Domain Portfolio: Tropical | Domain: Forecast | Usage Classification: Standard

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Tropical Forecast - Cone API renders a cone representing the projected path of a tropical storm and current position information, based on 5 days of forecast advisory. For this API, JSON returned will always be GeoJSON.

Note: Storms will only pull from a designated source when calling by stormId.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- stormType
- latitudeHemisphere
- stormSubType
- longituteHemisphere
- stormDirectionCardinal
- directionCardinal

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	**v3-tropical-cone**
Request by Source and Basin: Required Parameters: source, basin, language, format, units, nautical, apiKey https://api.weather.com/v3/tropical/cone?**source=<source>**&**basin=<basin>**&language=<language>&format=<format>&units=<units>&nautical=<nautical>&**apiKey=<apiKey>**		
https://api.weather.com/v3/tropical/cone?**source=default**&**basin=all**&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		
Request by Storm ID: Required Parameters: stormId, language, format, units, nautical, apiKey https://api.weather.com/v3/tropical/cone?**stormId=<stormId>**&language=<language>&format=<format>&units=<units>&nautical=<nautical>&**apiKey=<apiKey>**		
https://api.weather.com/v3/tropical/cone?**stormId=EP052016**&language=en-US&format=json&units=e&nautical=true&**apiKey=yourApiKey**		

Valid Parameter Definitions

The valid parameter values listed below are unique to this API and are cases sensitive. These parameters support the ability to ‘filter’ the request by the supported sources and basins.

Parameter: source	
Valid Parameter Value	Description
default	Data returned is limited to a TWC selected source for that basin. As additional sources are added worldwide, the default source for a particular basin may change.
all	Data returned for all sources for that basin.
Parameter: basin	
Valid Parameter Value	Description
all	Data returned for all supported basins (listed below).
AL	Atlantic Ocean
CP	Central Pacific
EP	Eastern Pacific Ocean
IO	Indian Ocean
SH	Southern Hemisphere
WP	Western Pacific

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
metadata	metadata object	object			N
next	Indicates if multiple queries are required	number		1346619600000	Y
type	GeoJSON type attribute	string	FeatureCollection	"FeatureCollection",	N
features	GeoJSON features array	[array]			N
properties		object			N
bulletinId	internal use only	string		a94e1880a4870ae1b7d21049151d5edfa4e1011e	N
stormKey	Unique storm identifier through life of the storm	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
stormId	Storm id. Format will vary by source. Not unique globally	string		EP022002	N
stormNumber	Given for only named storms leveraging JMA data. Othewise null	integer		null	Y
stormName	Name assigned by issuing agency. Named storms are in proper case	string		Alberto	N
alternateStormName	'Storm-name' populated in Japanese when data is fromJ MA. Otherwise will be'null'	string		null	Y
source	Issuing Agency	string	NHC, WPC, CPHC, JTWC	NHC	N
designatedSource	true if a TWC selected provider	boolean	true or false	TRUE	N
issueOffice	office issuing bulletin	string		KNHC	N
issueDateTime	Time Issuing Agency creates the bulletin	ISO	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T01:00:00-00:00	N
issueDateTimeZoneCode	IANA code for issueDateTime	string		America/New_York	N
issueDateTimeZoneAbbreviation	Time zone abbreviation for issueDateTime	string		EDT	N
advisoryNumber	Issuing Agency advisory number	string		12A	N
advisoryDateTime	Advisory time	ISO	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:15-08:00	N
advisoryDateTimeZoneCode	IANA code for advisoryDateTime	string		America/New_York	N
advisoryDateTimeZoneAbbreviation	Time zone abbreviation for issueDateTime	string		EDT	N
currentPosition		object			N
latitude	Current latitude of the storm	decimal	Negative if in the Southern Hemisphere	42.5	N
latitudeHemisphere	Latitude hemisphere	string	N,S	N	N
longitude	Current longitude of the storm	decimal	Negative if in the Western Hemisphere	-59.8	N
longitudeHemisphere	Longitude hemisphere	string	E,W	W	N
stormTypeCode	Encoded storm type	string	TD, TS, HU, SS, PT, RO, SD, EX, LOW, PTC, TY, ST, TC,	HU	N
stormType	Storm type	string	Tropical Depression, Tropical Storm, Hurricane, Subtropical Storm, Post-tropical cyclone, Remnants of, Subtropical Depression, Extratropical, Extra Tropical Low, Potential Tropical Cyclone, Typhoon, Super Typhoon, Tropical Cyclone,	Hurricane	N

stormSubTypeCode	Encoded storm sub type	string	1, 2, 3, 4, 5	1	Y
stormSubType	Storm sub type	string	Category 1 Hurricane Category 2 Hurricane Category 3 Hurricane Category 4 Hurricane Category 5 Hurricane Category 1 Tropical Cyclone Category 2 Tropical Cyclone Category 3 Tropical Cyclone Category 4 Tropical Cyclone Category 5 Tropical Cyclone Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclonic Storm	Category 1 Hurricane Note: In EP, CP, and AL, only stormType=HU (Hurricane) has a subType In WP, no stormType has a subType In IO and SH, stormType=TC (Tropical Cyclone) has a subType. If stormType=TC in another basin, it will not have a subType.	Y
headline	List of headlines. [list]	[array]	For NHC data headline is US English only and will be populated when available For JTWC the data headline will be null.		Y
headline	Headline extracted from bulletin	string	Always uppercase	HURRICANE CONDITIONS EXPECTED TODAY	N
maximumSustainedWind	Maximum sustained winds	integer		45	N
windGust	Wind gusts	integer		70	Y
minimumPressure	Minimum central pressure	decimal		29.5	Y
heading	Heading information for the storm	object			N
stormDirection	Current direction of the storm in degrees	string	0 to 360 or stationary or drifting, meandering	340	N
stormDirectionCardinal	Cardinal wind direction	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Almost Stationary, Stationary, Drifting , Meandering	NNW	N
stormSpeed	Forward speed of the storm	integer		12	Y
nearbyLocation	Geographical references for a storm. [list of objects]	object	Only populated from TCP and TCU bulletin. For JTWC the data headline will be null.		Y
locationName	Location name	string	Always uppercase	CAPE HATTERAS NORTH CAROLINA	N
distance	Distance from the center of the storm	integer		240	Y
directionCardinal	Direction of locationName from the center of the storm	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Almost Stationary, Stationary, Drifting , Meandering	N	Y
cityName	Nearest city	string	Only for CONUS. Always in proper case	Cape Hatteras	Y
stateCode	Nearest state	string	Only for CONUS. Always in uppercase	NC	Y
windRadii	Storm wind radius values. [list of objects]	object			Y
radiiWspd	Wind speed for the associated quadrant	integer		64	N
NE	Distance from the center of the storm in the NE quadrant where radii_wspd begin	integer		75	N
SE	Distance from the center of the storm in the SE quadrant where radii_wspd begin	integer		75	N

SW	Distance from the center of the storm in the SW quadrant where radii_wspd begin	integer		80	N
NW	Distance from the center of the storm in the NW quadrant where radii_wspd begin	integer		80	N
seaRadii	Wave Height Radius Values Object	object			Y
NE	Distance from the center of the storm in the NE quadrant where wave_height values begin	integer		12	N
SE	Distance from the center of the storm in the SE quadrant where wave_height values begin	integer		75	N
SW	Distance from the center of the storm in the SW quadrant where wave_height values begin	integer		75	N
NW	Distance from the center of the storm in the NW quadrant where wave_height values begin	integer		80	N
type	GeoJSON type	string	Feature	"Feature"	N
geometry	GeoJSON geometry	object			N
type	GeoJSON type	string	Polygon	"Polygon"	N
coordinates	Coordinates array	[array]			N
coordinates	Array of GeoJSON coordinates ordered as: (longitude, latitude) which defines the polygon geometry	[array]			N

JSON Sample

```
// Response Collapsed for Presentation Purposes
{
  "metadata": {
    "next": null
  },
  "type": "FeatureCollection",
  "features": [
    {
      "properties": {
        "bulletinId": "d978a4a7cdb30852a517ef7ec741f05d",
        "stormKey": "f4b8aa1e70f9b4866f061703b6f298fd",
        "stormId": "AL112017",
        “stormNumber”: null,
        "stormName": "Irma",
        “alternateStormName”: null,
        "source": "NHC",
        "designatedSource": true,
        "basin": "AL",
        "issueOffice": "KNHC",
        "wmoId": "WTNT21",
        "issueDateTime": "2018-04-19T20:55:00Z",
        "issueDateTimeZoneCode": "Etc/UTC",
        "issueDateTimeZoneAbbreviation": "UTC",
        "advisoryNumber": "39",
```

```
"advisoryDateTime": "2018-04-19T17:00:00-04:00",
"advisoryDateTimeZoneCode": "America/New_York",
"advisoryDateTimeZoneAbbreviation": "EDT",
"currentPosition": {
  "latitude": 22.1,
  "latitudeHemisphere": "N",
  "longitude": -76.5,
  "longitudeHemisphere": "W",
  "stormTypeCode": "HU",
  "stormType": "Hurricane",
  "stormSubTypeCode": "4",
  "stormSubType": "Category 4 Hurricane",
  "headline": null,
  "minimumPressure": 925,
  "maximumSustainedWind": 250,
  "windGust": 305,
  "heading": {
    "stormDirection": "280",
    "stormDirectionCardinal": "W",
    "stormSpeed": 19
  },
  "nearbyLocation": [],
  "windRadii": [
    {
      "radiiWindSpeed": 63,
      "NE": 296,
      "SE": 222,
      "SW": 148,
      "NW": 278
    },
    {
      "radiiWindSpeed": 93,
      "NE": 185,
      "SE": 167,
      "SW": 93,
      "NW": 148
    },
    {
      "radiiWindSpeed": 119,
      "NE": 111,
      "SE": 111,
      "SW": 56,
      "NW": 111
    }
```

```
        ],
        "seaRadii": {
          "waveHeight": 4,
          "NE": 944,
          "SE": 333,
          "SW": 111,
          "NW": 888
        }
      }
    },
    "type": "Feature",
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [
            -76.3447,
            22.1014
          ],
          [
            -76.3474,
            22.0731
          ],
          [
            -76.356,
            22.0459
          ],
          [
            -76.3701,
            22.0207
          ],
          [
     -76.3479,
            22.1296
          ],
          [
            -76.3447,
            22.1014
          ]
        ]
      ]
    }
  }
]
```

```
}
```

Tropical Models - Storms - v3
Document Version 1.1

Domain Portfolio: Tropical | Domain: Models | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Returns a list of storms that are being actively modeled.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Request by basin: Required Parameters: basin, format, apiKey https://api.weather.com/v3/tropical/models/storms?**basin=<basin>**&format=json&**apiKey=yourApiKey**
https://api.weather.com/v3/tropical/models/storms?**basin=all**&format=json&**apiKey=yourApiKey**

Valid Parameters

The valid parameter values listed below are unique to this API and are cases sensitive. These parameters support the ability to 'filter' the request by the supported basin.

Parameter: basin	
Valid Parameter Value	Description
all	Data returned for all supported basins (listed below).
AL	Atlantic Ocean
CP	Central Pacific
EP	Eastern Pacific Ocean

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots
units=m&nautical=true will give pressures in millibars and speeds in knots
units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph
units=m&nautical=false will give pressures in millibars and speeds in kph

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
basin	Basin identifier	[string]	AL, CP, EP	["EP"]	No
expireTimeUTC	Suggested removal time, 14 hours past the ingestion time.	[epoch]		[1421175600]	No
lastModelTimeUTC	Time that the last model was run.	[epoch]		[1421175600]	No
linkedStormId	The associated Storm ID assigned to the storm identified from the model.	[string]		["EP012017"]	Yes
processTimeUTC	Time that the bulletin was processed.	[epoch]		[2471984402]	No
source	Issuing Agency	[string]	NHC, other valid sources.	["NHC"]	No
stormId	The Storm ID of this storm.	[string]		["EP902017"]	No

JSON Sample

// Response Collapsed for Presentation Purposes

{
basin:["CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP", "CP",…],,
expireTimeUTC:[1489161600, 1489161600, 1489161600, 1489161600, 1489161600, 1489161600, 1489161600, 1489161600,…],
lastModelTimeUTC:[1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200,…],
linkedStormId:["CP302017", null, null, null, null, null, null, null, null, null, null, null, null, null, null, null,…],
processTimeUTC:[1488986792, 1488986795, 1488986798, 1488986802, 1488986805, 1488986809, 1488986812, 1488986816,…],
source:["NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC", "NHC",…],
stormId:["CP102017", "CP112017", "CP122017", "CP132017", "CP142017", "CP152017", "CP162017", "CP172017",…]
}

Lifestyle Indices - Pollen Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Pollen index provides forecast indices for Grass, Ragweed, and Tree pollen.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayPartName
- grassPollenCategory
- ragweedPollenCategory
- treePollenCategory

URL Construction

Atomic API URL Examples:	
Pollen Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/pollen/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/pollen/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPollenDaypart3
https://api.weather.com/v2/indices/pollen/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPollenDaypart5
https://api.weather.com/v2/indices/pollen/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPollenDaypart7
https://api.weather.com/v2/indices/pollen/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPollenDaypart10
https://api.weather.com/v2/indices/pollen/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxPollenDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/pollen/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/pollen/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxPollenDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Pollen Index	grassPollenCategory	Descriptive text of Grass Pollen Index	[string]		Low	N	Display As Provided
	grassPollenIndex	Forecast Grass Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	N	Display As Provided
	ragweedPollenCategory	Descriptive text of Ragweed Pollen Index	[string]		Low	N	Display As Provided
	ragweedPollenIndex	Forecast Ragweed Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	N	Display As Provided
	treePollenCategory	Descriptive text of Tree Pollen Index	[string]		Low	N	Display As Provided
	treePollenIndex	Forecast Tree Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{"metadata": {},
"pollenForecast12hour": {
"fcstValid": [],                {//JSON payload},
"fcstValidLocal": [],           {//JSON payload},
"dayInd": [],                   {//JSON payload},
"num": [],                      {//JSON payload},
"daypartName": [],              {//JSON payload},
"grassPollenIndex": [],         {//JSON payload},
"grassPollenCategory": [],      {//JSON payload},
"treePollenIndex": [],          {//JSON payload},
"treePollenCategory": [],       {//JSON payload},
"ragweedPollenIndex": [],       {//JSON payload},
"ragweedPollenCategory": []     {//JSON payload},
}}
```

Aggregate Engine - Common Parameter (aggcommon) - v3.0

Domain Portfolio: Utility | Domain: Aggregation | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Aggregate - Common API provides aggregation capabilities to aggregate API products within a single request. The Aggregate common is an aggregation model in which atomic API products share common parameters across each of the atomic API products included in the aggregate request. The required parameters are dependent on the required parameters of the individual API products included in the request.

Your content licensing agreement with TWC determines which APIs can be used in the Aggregation Engine and is constrained by the API Key entitlements that is provided to your company. Each individual API and APIs, for example, with days (3, 5, 7, 10 days) is an atomic API endpoint. Your API key must be authorized for each atomic API endpoint to successfully request a given API endpoint and aggregate request. If your API key is authorized for only the 3 day endpoint, and you attempt to request a 10 day duration, you will get an error stating that "Api not allowed for this api key." If you attempt to include an API in the aggregation request which your API key is not authorized for, the request will return an error.

Aggregation is the combining of two or more atomic API (individual API) calls into a single HTTP request. An “atomic API” call references any of the API’s that your API Key is authorized for.

- Products included in the aggregation request must be semicolon separated (;). Query parameters are required for all requests.
- Atomic API products can be called using their assigned ‘short-name’ alias for aggregation. APIs that support aggregation will have a defined ‘short-name’ alias documented.

Aggregate Limitations

Important limitations on what can be produced and supported through aggregation:

1. Aggregations are limited to a total **uncompressed** response size of **less than 1 megabyte total** (the entire response for the complete aggregation cannot exceed 1 megabyte).
2. URL’s are limited to approximately 4,000 characters in length (including protocol, hostname, path and query string).
3. Aggregations are limited to a total of 50 atomic APIs.

For all practical purposes, the most likely limits you will hit in using aggregation are the payload and character restrictions (especially the total uncompressed size).

WARNING: Due to the nature of the implementation of aggregation, if your request or response does violate any of the above limitations, you will receive an error response with a 5XX HTTP Status code

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Request by Geocode: Required Parameters: geocode, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
Weather Company Data Core: https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**geocode=<geocode>**&language=<language>&format=<format>&units=<units>&**apiKey=yourApiKey**

Weather Company Data Core:	https://api.weather.com/v3/aggcommon/v3-wx-forecast-daily-3day;v2obs;v3-location-point?**geocode=33.74,-84.39**&language=en-US&units=e&format=json&apiKey=**yourApiKey**
Weather Company Data Enhanced Current Conditions:	https://api.weather.com/v3/aggcommon/v2obscurrent;v2pwsObsCur;v3-location-point?stationId=**KVAHAMPT76&geocode=33.74,-84.39**&language=en-US&units=e&format=json&apiKey=**yourApiKey**
Weather Company Data Enhanced Forecast:	https://api.weather.com/v3/aggcommon/v3-wx-observations-current;v3-location-point?**geocode=33.74,-84.39**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Request by IATA Code: Required Parameters: iataCode, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**iataCode=<iataCode>**&language=<language>&format=<format>&units=<units>&**apiKey=yourApiKey**

https://api.weather.com/v3/aggcommon/v3-wx-observations-current;v3-wx-conditions-historical-dailysummary-30day;v3-location-point?**iataCode=FCO**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Request by ICAO Code: Required Parameters: icaoCode, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**icaoCode=<icaoCode>**&language=<language>&format=<format>&units=<units>&**apiKey=yourApiKey**

https://api.weather.com/v3/aggcommon/v3-wx-observations-current;v3-wx-conditions-historical-dailysummary-30day;v3-location-point?**icaoCode=LIRF**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Request by Place ID: Required Parameters: placeid, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**placeid=<placeid>**&language=<language>&format=<format>&units=<units>&**apiKey=yourApiKey**

https://api.weather.com/v3/aggcommon/v3-wx-observations-current;v3-wx-conditions-historical-dailysummary-30day;v3-location-point?**placeid=25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Request by Postal Key: Required Parameters: postalKey, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**postalKey=<postalKey>**&language=<language>&format=<format>&units=<units>&**apiKey=yourApiKey**

https://api.weather.com/v3/aggcommon/v3-wx-observations-current;v3-wx-conditions-historical-dailysummary-30day;v3-location-point?**postalKey=30339:US**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Note: Unique to this API is the ability to request by multiple **geocodes** and **placeids** as a semicolon-seperated product list. See below for details.

Request by Geocodes [Multiple Locations]: Required Parameters: geocode, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**geocodes=<geocode>;<geocode>**&language=en-US&format=<json>&units=<units>&**apiKey=yourApiKey**

geocode(s) query parameter is a semicolon-separated list of geocodes. The result is an array of elements with each element exactly the same as a single location response.

- **Note**: if requesting multiple locations, the geocode field must be plural (geocode**s**) whereas a single location request the geocode field remains singular (geocode).
- **geocodes=34.44,-83.00;41.40,-38.19**

https://api.weather.com/v3/aggcommon/v2fcstdaily3;v2obs;v3-location-point?**geocodes=34.44,-83.00;41.40,-38.19**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

Request by Place IDs [Multiple Locations]: Required Parameters: placeid, units, language, format, [* Product Specific Parameters *], apiKey=**yourApiKey**
https://api.weather.com/**v3/aggcommon**/<**semicolon-separated product list**>?**placeids=<placeid>;<placeid>**&language=en-US&format=<json>&units=<units>&**apiKey=yourApiKey**

geocode(s) query parameter is a semicolon-separated list of placeids. The result is an array of elements with each element exactly the same as a single location response.

- **Note**: if requesting multiple locations, the placeid field must be plural (placeid**s**) whereas a single location request the placeid field remains singular (placeid).
- **placeids=1a8af5b9d8971c46dd5a52547f9221e22cd895d8d8639267a87df614d0912830;501361e097b79e8221d5c0b1447e80a0bf1c48b8fee1e4d98d4dad397ba2f204&language=en-US&apiKey=2e3b622cd8ae1c242a3f8205e59b701e**

https://api.weather.com/v3/aggcommon/v2fcstdaily3;v2obs;v3-location-point?**placeids=1a8af5b9d8971c46dd5a52547f9221e22cd895d8d8639267a87df614d0912830;501361e097b79e8221d5c0b1447e80a0bf1c48b8fee1e4d98d4dad397ba2f204&language=en-US&apiKey=2e3b622cd8ae1c242a3f8205e59b701e**&language=en-US&units=e&format=json&apiKey=**yourApiKey**

JSON Sample


```
{
id: "33.74,-84.39",
v2fcstdaily3: {
metadata: {
language: "en-US",
transaction_id: "1521823740966:-765308731",
version: "1",
latitude: 33.74,
longitude: -84.39,
units: "e",
expire_time_gmt: 1521824404,
status_code: 200
},
forecasts: [
{
class: "fod_long_range_daily",
expire_time_gmt: 1521824404,
fcst_valid: 1521802800,
fcst_valid_local: "2018-03-23T07:00:00-0400",
num: 1,
max_temp: 63,
min_temp: 45,
torcon: null,
stormcon: null,
blurb: null,
blurb_author: null,
lunar_phase_day: 6,
dow: "Friday",
lunar_phase: "Waxing Crescent",
lunar_phase_code: "WXC",
sunrise: "2018-03-23T07:37:26-0400",
sunset: "2018-03-23T19:51:42-0400",
moonrise: "2018-03-23T11:58:55-0400",
moonset: "2018-03-23T01:16:44-0400",
qualifier_code: null,
qualifier: null,
narrative: "Partly cloudy. Highs in the low 60s and lows in the mid 40s.",
qpf: 0,
snow_qpf: 0,
snow_range: "",
```

snow_phrase: "",
snow_code: "",
night: {
fcst_valid: 1521846000,
fcst_valid_local: "2018-03-23T19:00:00-0400",
day_ind: "N",
thunder_enum: 0,
daypart_name: "Tonight",
long_daypart_name: "Friday night",
alt_daypart_name: "Tonight",
thunder_enum_phrase: "No thunder",
num: 2,
temp: 45,
hi: 60,
wc: 44,
pop: 20,
icon_extd: 2900,
icon_code: 29,
wxman: "wx1650",
phrase_12char: "P Cloudy",
phrase_22char: "Partly Cloudy",
phrase_32char: "Partly Cloudy",
subphrase_pt1: "Partly",
subphrase_pt2: "Cloudy",
subphrase_pt3: "",
precip_type: "rain",
rh: 66,
wspd: 7,
wdir: 83,
wdir_cardinal: "E",
clds: 61,
pop_phrase: "",
temp_phrase: "Low near 45F.",
accumulation_phrase: "",
wind_phrase: "Winds E at 5 to 10 mph.",
shortcast: "Partly cloudy",
narrative: "Partly cloudy this evening with more clouds for overnight. Low near 45F. Winds E at 5 to 10 mph.",
qpf: 0,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D2:DA02:X3000280021:S300021:TL45:W04R02",
qualifier_code: null,
qualifier: null,
uv_index_raw: 0,
uv_index: 0,
uv_warning: 0,
uv_desc: "Low",
golf_index: null,
golf_category: ""
},
day: {
fcst_valid: 1521802800,
fcst_valid_local: "2018-03-23T07:00:00-0400",

day_ind: "D",
thunder_enum: 0,
daypart_name: "Today",
long_daypart_name: "Friday",
alt_daypart_name: "Today",
thunder_enum_phrase: "No thunder",
num: 1,
temp: 63,
hi: 62,
wc: 54,
pop: 0,
icon_extd: 3000,
icon_code: 30,
wxman: "wx1100",
phrase_12char: "P Cloudy",
phrase_22char: "Partly Cloudy",
phrase_32char: "Partly Cloudy",
subphrase_pt1: "Partly",
subphrase_pt2: "Cloudy",
subphrase_pt3: "",
precip_type: "rain",
rh: 36,
wspd: 9,
wdir: 298,
wdir_cardinal: "WNW",
clds: 37,
pop_phrase: "",
temp_phrase: "High 63F.",
accumulation_phrase: "",
wind_phrase: "Winds WNW at 5 to 10 mph.",
shortcast: "Mix of sun and clouds",
narrative: "Partly cloudy. High 63F. Winds WNW at 5 to 10 mph.",
qpf: 0,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D1:DA01:X3000300014:S300012:TH63:W13R02",
qualifier_code: null,
qualifier: null,
uv_index_raw: 7.22,
uv_index: 7,
uv_warning: 0,
uv_desc: "High",
golf_index: 9,
golf_category: "Very Good"
}
},
{
class: "fod_long_range_daily",
expire_time_gmt: 1521824404,
fcst_valid: 1521889200,
fcst_valid_local: "2018-03-24T07:00:00-0400",
num: 2,
max_temp: 70,

min_temp: 56,
torcon: null,
stormcon: null,
blurb: null,
blurb_author: null,
lunar_phase_day: 7,
dow: "Saturday",
lunar_phase: "First Quarter",
lunar_phase_code: "FQ",
sunrise: "2018-03-24T07:36:05-0400",
sunset: "2018-03-24T19:52:27-0400",
moonrise: "2018-03-24T12:52:50-0400",
moonset: "2018-03-24T02:18:59-0400",
qualifier_code: null,
qualifier: null,
narrative: "Chance of afternoon showers. Highs in the low 70s and lows in the mid 50s.",
qpf: 0.22,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
night: {
fcst_valid: 1521932400,
fcst_valid_local: "2018-03-24T19:00:00-0400",
day_ind: "N",
thunder_enum: 2,
daypart_name: "Tomorrow night",
long_daypart_name: "Saturday night",
alt_daypart_name: "Saturday night",
thunder_enum_phrase: "Thunder expected",
num: 4,
temp: 56,
hi: 70,
wc: 59,
pop: 70,
icon_extd: 1140,
icon_code: 11,
wxman: "wx2500",
phrase_12char: "T-Showers",
phrase_22char: "Thundershowers",
phrase_32char: "Thundershowers",
subphrase_pt1: "T-Showers",
subphrase_pt2: "",
subphrase_pt3: "",
precip_type: "rain",
rh: 73,
wspd: 11,
wdir: 236,
wdir_cardinal: "SW",
clds: 90,
pop_phrase: "Chance of rain 70%.",
temp_phrase: "Low 56F.",
accumulation_phrase: "",
wind_phrase: "Winds SW at 10 to 15 mph.",
shortcast: "Thundershowers",

narrative: "Rain showers in the evening then thundershowers overnight. Low 56F. Winds SW at 10 to 15 mph. Chance of rain 70%.",
qpf: 0.19,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D4:DA17:X1100114042:S114043:TL56:W10R03:P9071",
qualifier_code: null,
qualifier: null,
uv_index_raw: 0,
uv_index: 0,
uv_warning: 0,
uv_desc: "Low",
golf_index: null,
golf_category: ""
},
day: {
fcst_valid: 1521889200,
fcst_valid_local: "2018-03-24T07:00:00-0400",
day_ind: "D",
thunder_enum: 0,
daypart_name: "Tomorrow",
long_daypart_name: "Saturday",
alt_daypart_name: "Saturday",
thunder_enum_phrase: "No thunder",
num: 3,
temp: 70,
hi: 69,
wc: 43,
pop: 50,
icon_extd: 7103,
icon_code: 39,
wxman: "wx2500",
phrase_12char: "PM Showers",
phrase_22char: "PM Showers",
phrase_32char: "PM Showers",
subphrase_pt1: "PM",
subphrase_pt2: "Showers",
subphrase_pt3: "",
precip_type: "rain",
rh: 60,
wspd: 13,
wdir: 186,
wdir_cardinal: "S",
clds: 70,
pop_phrase: "Chance of rain 50%.",
temp_phrase: "High near 70F.",
accumulation_phrase: "",
wind_phrase: "Winds S at 10 to 20 mph.",
shortcast: "Afternoon showers",
narrative: "Partly cloudy skies during the morning hours will give way to occasional showers in the afternoon. High near 70F. Winds S at 10 to 20 mph. Chance of rain 50%.",
qpf: 0.03,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",

snow_code: "",
vocal_key: "D3:DA16:X3000110031:S710331:TH70:W08R04:P9051",
qualifier_code: null,
qualifier: null,
uv_index_raw: 5.6,
uv_index: 6,
uv_warning: 0,
uv_desc: "High",
golf_index: 9,
golf_category: "Very Good"
}
},
{
class: "fod_long_range_daily",
expire_time_gmt: 1521824404,
fcst_valid: 1521975600,
fcst_valid_local: "2018-03-25T07:00:00-0400",
num: 3,
max_temp: 60,
min_temp: 40,
torcon: null,
stormcon: null,
blurb: null,
blurb_author: null,
lunar_phase_day: 8,
dow: "Sunday",
lunar_phase: "Waxing Gibbous",
lunar_phase_code: "WXG",
sunrise: "2018-03-25T07:34:44-0400",
sunset: "2018-03-25T19:53:11-0400",
moonrise: "2018-03-25T13:52:17-0400",
moonset: "2018-03-25T03:19:10-0400",
qualifier_code: null,
qualifier: null,
narrative: "Light rain in the morning. Highs in the low 60s and lows in the low 40s.",
qpf: 0.28,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
night: {
fcst_valid: 1522018800,
fcst_valid_local: "2018-03-25T19:00:00-0400",
day_ind: "N",
thunder_enum: 0,
daypart_name: "Sunday night",
long_daypart_name: "Sunday night",
alt_daypart_name: "Sunday night",
thunder_enum_phrase: "No thunder",
num: 6,
temp: 40,
hi: 51,
wc: 36,
pop: 70,
icon_extd: 7100,

icon_code: 45,
wxman: "wx2550",
phrase_12char: "Shwrs Late",
phrase_22char: "Showers Late",
phrase_32char: "Showers Late",
subphrase_pt1: "Showers",
subphrase_pt2: "Late",
subphrase_pt3: "",
precip_type: "rain",
rh: 74,
wspd: 14,
wdir: 88,
wdir_cardinal: "E",
clds: 99,
pop_phrase: "Chance of rain 70%.",
temp_phrase: "Low near 40F.",
accumulation_phrase: "",
wind_phrase: "Winds E at 10 to 20 mph.",
shortcast: "Showers late",
narrative: "Cloudy with occasional showers late at night. Low near 40F. Winds E at 10 to 20 mph. Chance of rain 70%.",
qpf: 0.21,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D6:DA05:X2600110041:S710041:TL40:W04R04:P9071",
qualifier_code: null,
qualifier: null,
uv_index_raw: 0,
uv_index: 0,
uv_warning: 0,
uv_desc: "Low",
golf_index: null,
golf_category: ""
},
day: {
fcst_valid: 1521975600,
fcst_valid_local: "2018-03-25T07:00:00-0400",
day_ind: "D",
thunder_enum: 0,
daypart_name: "Sunday",
long_daypart_name: "Sunday",
alt_daypart_name: "Sunday",
thunder_enum_phrase: "No thunder",
num: 5,
temp: 60,
hi: 59,
wc: 48,
pop: 80,
icon_extd: 6304,
icon_code: 11,
wxman: "wx2550",
phrase_12char: "AM Lgt Rain",
phrase_22char: "AM Light Rain",
phrase_32char: "AM Light Rain",

subphrase_pt1: "AM",
subphrase_pt2: "Lt Rain",
subphrase_pt3: "",
precip_type: "rain",
rh: 80,
wspd: 12,
wdir: 83,
wdir_cardinal: "E",
clds: 97,
pop_phrase: "Chance of rain 80%.",
temp_phrase: "High near 60F.",
accumulation_phrase: "",
wind_phrase: "Winds E at 10 to 15 mph.",
shortcast: "Light rain in the morning",
narrative: "Cloudy with occasional light rain...mainly in the morning. High near 60F. Winds E at 10 to 15 mph. Chance of rain 80%.",
qpf: 0.07,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D5:DA04:X1201260033:S630431:TH60:W04R03:P9081",
qualifier_code: null,
qualifier: null,
uv_index_raw: 3.25,
uv_index: 3,
uv_warning: 0,
uv_desc: "Moderate",
golf_index: 5,
golf_category: "Fair"
}
},
{
class: "fod_long_range_daily",
expire_time_gmt: 1521824404,
fcst_valid: 1522062000,
fcst_valid_local: "2018-03-26T07:00:00-0400",
num: 4,
max_temp: 46,
min_temp: 44,
torcon: null,
stormcon: null,
blurb: null,
blurb_author: null,
lunar_phase_day: 9,
dow: "Monday",
lunar_phase: "Waxing Gibbous",
lunar_phase_code: "WXG",
sunrise: "2018-03-26T07:33:23-0400",
sunset: "2018-03-26T19:53:55-0400",
moonrise: "2018-03-26T14:55:24-0400",
moonset: "2018-03-26T04:14:16-0400",
qualifier_code: null,
qualifier: null,
narrative: "Showers. Highs in the mid 40s with temperatures nearly steady overnight.",
qpf: 0.1,

snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
night: {
fcst_valid: 1522105200,
fcst_valid_local: "2018-03-26T19:00:00-0400",
day_ind: "N",
thunder_enum: 0,
daypart_name: "Monday night",
long_daypart_name: "Monday night",
alt_daypart_name: "Monday night",
thunder_enum_phrase: "No thunder",
num: 8,
temp: 44,
hi: 48,
wc: 40,
pop: 20,
icon_extd: 2600,
icon_code: 26,
wxman: "wx1250",
phrase_12char: "Cloudy",
phrase_22char: "Cloudy",
phrase_32char: "Cloudy",
subphrase_pt1: "Cloudy",
subphrase_pt2: "",
subphrase_pt3: "",
precip_type: "rain",
rh: 63,
wspd: 12,
wdir: 95,
wdir_cardinal: "E",
clds: 98,
pop_phrase: "",
temp_phrase: "Low 44F.",
accumulation_phrase: "",
wind_phrase: "Winds E at 10 to 15 mph.",
shortcast: "Mostly cloudy",
narrative: "Cloudy. Low 44F. Winds E at 10 to 15 mph.",
qpf: 0,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D8:DA07:X2600260042:S260042:TL44:W04R03",
qualifier_code: null,
qualifier: null,
uv_index_raw: 0,
uv_index: 0,
uv_warning: 0,
uv_desc: "Low",
golf_index: null,
golf_category: ""
},
day: {

fcst_valid: 1522062000,
fcst_valid_local: "2018-03-26T07:00:00-0400",
day_ind: "D",
thunder_enum: 0,
daypart_name: "Monday",
long_daypart_name: "Monday",
alt_daypart_name: "Monday",
thunder_enum_phrase: "No thunder",
num: 7,
temp: 46,
hi: 46,
wc: 32,
pop: 40,
icon_extd: 1100,
icon_code: 11,
wxman: "wx2510",
phrase_12char: "Showers",
phrase_22char: "Showers",
phrase_32char: "Showers",
subphrase_pt1: "Showers",
subphrase_pt2: "",
subphrase_pt3: "",
precip_type: "rain",
rh: 67,
wspd: 15,
wdir: 90,
wdir_cardinal: "E",
clds: 100,
pop_phrase: "Chance of rain 40%.",
temp_phrase: "High 46F.",
accumulation_phrase: "",
wind_phrase: "Winds E at 10 to 20 mph.",
shortcast: "Chance of showers",
narrative: "Rain showers in the morning becoming more intermittent in the afternoon. High 46F. Winds E at 10 to 20 mph. Chance of rain 40%.",
qpf: 0.1,
snow_qpf: 0,
snow_range: "",
snow_phrase: "",
snow_code: "",
vocal_key: "D7:DA06:X1100460032:S110033:TH46:W04R04:P9041",
qualifier_code: null,
qualifier: null,
uv_index_raw: 3.28,
uv_index: 3,
uv_warning: 0,
uv_desc: "Moderate",
golf_index: 2,
golf_category: "Very Poor"
}
}
]
},
v2obs: {
metadata: {
language: "en-US",

transaction_id: "1521823740927:1684309144",
version: "1",
latitude: 33.74,
longitude: -84.39,
units: "e",
expire_time_gmt: 1521827520,
status_code: 200
},
observation: {
key: "KATL",
class: "observation",
expire_time_gmt: 1521827520,
obs_id: "KATL",
obs_name: "Atlanta",
valid_time_gmt: 1521820320,
day_ind: "D",
temp: 50,
wx_icon: 28,
icon_extd: 2800,
wx_phrase: "Mostly Cloudy",
pressure_tend: null,
pressure_desc: null,
dewPt: 29,
heat_index: 50,
rh: 44,
pressure: 29.2,
vis: 10,
wc: 50,
wdir: 280,
wdir_cardinal: "W",
gust: null,
wspd: 3,
max_temp: null,
min_temp: null,
precip_total: null,
precip_hrly: 0,
snow_hrly: null,
uv_desc: "Moderate",
feels_like: 50,
uv_index: 3,
qualifier: null,
qualifier_svrty: null,
blunt_phrase: null,
terse_phrase: null,
clds: "BKN",
water_temp: null,
primary_wave_period: null,
primary_wave_height: null,
primary_swell_period: null,
primary_swell_height: null,
primary_swell_direction: null,
secondary_swell_period: null,
secondary_swell_height: null,
secondary_swell_direction: null
}

```
},
v3-location-point: {
location: {
latitude: 33.738,
longitude: -84.384,
city: "Atlanta",
locale: {
locale1: null,
locale2: "Atlanta",
locale3: null,
locale4: "Summerhill"
},
neighborhood: "Summerhill",
adminDistrict: "Georgia",
adminDistrictCode: "GA",
postalCode: "30312",
postalKey: "30312:US",
country: "United States",
countryCode: "US",
ianaTimeZone: "America/New_York",
displayName: "Atlanta",
dstEnd: "2018-11-04T01:00:00-0500",
dstStart: "2018-03-11T03:00:00-0400",
placeId: "25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd"
}
}
}
```

Vector Aviation METARs - v2

Domain Portfolio: Weather Imagery | Domain: Aviation | API Name: Vector Aviation METARs - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Feature Data Service (FDS) API provides geographic features for a number of products. The client can use these features to render a visual representation of data.

- FDS provides geometric vector data where each feature can be a set of points, a polygon or set of polygons, a linestring or set of linestrings, or any other valid GeoJSON type
- Each feature is described by a set of geographic coordinates and a set of properties.
- Each feature is uniquely identified by the *combination* of its product key, feature key and valid time; the valid time is used to assign the feature to a unique feature set.
- For additional details about FDS, please see the Weather Company Data | Data Visualization - Weather Imagery | Common Usage Guide

Using FDS products requires a multi-step workflow to retrieve the necessary data for the specific product data request. Step 2 requires the **'time'** value parameter, found in the response from Step 1.

- **Step 1:** Get Product Info - Provides time-based labels for the feature sets that are currently available.
- **Step 2:** Get Features for a Single Tile - Provides all geographic features for a single tile, taken from a single feature set within a specific product.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Step 1: Get Product Info
Required Parameters: **productKey,** apiKey=**yourApiKey** **||** **Optional Parameters:** meta, max-times https://api.weather.com/v2/vector-api/products/**<productKey>**/info?**apiKey=yourApiKey**
The [**/products/{productKey}/info**] request provides the labels for the feature sets that are currently available. These labels are required as input for the subsequent [**/products/{productKey}/features**] request, and they are invoked in that request's **'time'** parameter.
https://api.weather.com/v2/vector-api/products/6000/info?meta=true&max-times=12&apiKey=yourApiKey
Step 2: Get Features for a Single Tile
Required Parameters: **productKey, time, lod, x, y,** apiKey=**yourApiKey** **||** **Optional Parameters:** declutter, tile-size https://api.weather.com/v2/vector-api/products/**<productKey>**/features?time=**<time>**&lod=**<lod>**&x=**<x>**&y=**<y>**&**apiKey=yourApiKey**
The [**/products/{productKey}/features**] request provides a set of features for a single tile, from a particular feature set within a particular product. Each feature contains a small set of key metadata properties, including its ID and valid time, which are required as input for any subsequent [**/products/{productKey}/feature-details**] request, as the **'feature-id'** and **'valid-time'** parameters.
https://api.weather.com/v2/vector-api/products/6000/features?time=1492016701805&lod=10&x=175&y=409&tile-size=256&apiKey=yourApiKey

Product Data Dictionary: 6000 - Aviation METARs

The source of the data includes WMO Bulletins received over various feeds such as NOAAPort and UKMO. There is no sense of current state. Observations are sent out as they are received from incoming streams of data.

The JSON data includes the following fields:

Field *Found in the GeoJSON response, in each feature's **properties** field*	**Description**
Valid_time	ISO-8601 Timestamp when the Observation occurred
Id	ICAO Station ID
Obs_name	Station Name
Valid_time_local	Local Timestamp of Observation
Valid_time_gmt	Unix Timestamp of Observation
Day_night_ind	Day Night Indicator, D(ay) or N(ight)
Temp	Temperature in Fahrenheit
Wx_icon	Weather Icon, static NULL
Wx_phrase	Weather Description, eg. Fair
Icon_extd	Extended Icon Code, static NULL
Mslp	Mean Sea Level Pressure in millibars if available, otherwise altimeter
Pressure_tend	Code for character of pressure change over last 3 hours (WMO Table 0200)
Pressure_desc	Pressure Tendency Description, e.g. Steady, Rising, Falling, Rising Rapidly or Falling Rapidly
Clg	Ceiling; Lowest cloud deck covering 60% or more of Sky in meters. Unlimited ceiling depicted as 99999.
Clds	Cloud Cover code of highest coverage cloud deck, e.g. CLR, FEW, SCT, BKN, OVC
Dewpt	Dew Point in Fahrenheit

Heat_index	Heat Index in Fahrenheit
Rh	Percent Relative Humidity
Pressure	Station Pressure from an Altimeter Reading
Pres_chg3hr	Pressure Change over the last 3 hours in millibars
Vis	Visibility in Statute Miles
Wc	Wind Chill in Fahrenheit
Wdir	Wind Direction in Degrees
Wdir_cardinal	Wind Direction in 16 Cardinal Compass sections, e.g. ENE
Gust	Gust Speed in Miles per Hour
Wspd	Sustained Wind Speed in Miles per Hour
Max_temp	Local Day Maximum Temperature in Fahrenheit
Min_temp	Local Day Minimum Temperature in Fahrenheit
Precip_total	Daily Accumulated Precipitation in inches
Precip_hrly	Rate of Precipitation in Recent Past
Snow_hrly	Rate of Snowfall in Recent Past
Snow_total	Depth of Snow on Ground in inches
Uv_index	UV Index based on location, time, elevation, and cloud cover
Uv_warning	UV Warning, static NULL
Uv_desc	UV Description, static NULL
Feels_like	Feels Like Temperature in Fahrenheit
Vocal_key	Vocal Key, static NULL
Wxman	Static NULL

Qualifier	Qualifier, static NULL
Qualifier_svrty	Qualifier Severity, static NULL
Temp_chg24hr	24 Hour Temperature Change in degrees Fahrenheit
Can_wc	Canadian Wind Chill in Celsius
Can_heat_index	Canadian Heat Index in Celsius
Water_temp	Water Temperature, static NULL
Primary_wave_period	Primary Wave Period, static NULL
Primary_wave_height	Primary Wave Height, static NULL
Primary_swell_period	Primary Swell Period, static NULL
Primary_swell_height	Primary Swell Height, static NULL
Primary_swell_direction	Primary Swell Direction, static NULL
Secondary_swell_period	Secondary Swell Period, static NULL
Secondary_swell_height	Secondary Swell Height, static NULL
Secondary_swell_direction	Secondary Swell Direction, static NULL
Raw_data	Raw Report Data
Report_type	Report Type Code, e.g. M(ETAR) or S(PECI)
Cloud_cover	Array of Cloud Cover percentages for each Cloud Deck
Cloud_base_height	Array of Cloud Base Heights in Meters
Flight_rule	Flight Rule Code, e.g. VFR, MVFR, IFR, LIFR, CAT1, or UNK
Wind_direction_variability	Wind Direction Variability in Degrees
Weather	Categorical Weather Codes (WMO Table 4678)
Cloud_type	Array of Cloud Type Code for each cloud deck, e.g. NC=non-convective, TCU=towering cumulus, CB=cumulonimbus

Altimeter	Altimeter (QNH) Pressure in millibars
Automation_type	Code for automation level, e.g. MAN=manned
Sensor_status	Bit flags indicating status of sensor; 0=all working, other values indicate sensor broken or missing

t5

Tropical Observation - Current Position - v2.0
Document Version 1.1

Domain Portfolio: Tropical | Domain: Current Conditions | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Tropical Current Position - Active Track API provides the ability to query the current position per active storm. Active storm - any storm that has reported in the last 168 hours.
The Tropical Current Position - Active Track API supports query by Basin, Selected Source, and Storm ID. Note: Storm ID may not be unique and this query may return multiple records.

Note: Storms will only pull from a designated source when calling by stormId.

Note: When leveraging JMA data, the following fields will be populated in Japanese: alternate_storm_name, headline

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dir_cardinal
- lat_hemisphere
- lon_hemisphere
- storm_dir_cardinal
- storm_sub_type
- storm_type

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	**v2tropicalCurrentPosition**
Request by Source and Basin: Required Parameters: source, basin, language, format, units, nautical=(true, false) https://api.weather.com/v2/tropical/currentposition?**source=default**&**basin=all**&language=en-US&format=<json or xml>&units=e&nautical=<true or false>&**apiKey=yourApiKey**		
https://api.weather.com/v2/tropical/currentposition?source=default&basin=all&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		
Request by Storm ID: Required Parameters: stormId, language, format, units, nautical=(true, false) https://api.weather.com/v2/tropical/currentposition?**stormId=EP022015**&language=en-US&format=<json or xml>&units=e&nautical=<true or false>&**apiKey=yourApiKey**		
https://api.weather.com/v2/tropical/currentposition?stormId=EP052016&language=en-US&format=json&units=e&nautical=true&apiKey=**yourApiKey**		

Valid Parameters

The valid parameter values listed below are unique to this API and are cases sensitive. These parameters support the ability to ‘filter’ the request by the supported sources and basins.

Parameter: source	
Valid Parameter Value	Description
default	Data returned is limited to a TWC selected source for that basin. As additional sources are added worldwide, the default source for a particular basin may change.
all	Data returned for all sources for that basin.
Parameter: basin	
Valid Parameter Value	Description
all	Data returned for all supported basins (listed below).
AL	Atlantic Ocean
CP	Central Pacific
EP	Eastern Pacific Ocean
IO	Indian Ocean
SH	Southern Hemisphere
WP	Western Pacific

Nautical Parameter

If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Wind Averaging Period

Governmental organizations providing tropical data use different periods of time when averaging wind values. The United States uses 1 minute values, New Delhi uses 3 minute values and all others use a 10 minute value. This applies to the following fields found in the payload

Current Position : wind_radii

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
Advisory Info Object					
alternate_storm_name	'Storm-name' populated in Japanese when data is fromJ MA. Otherwise will be'null'	string		null	Y
storm_key	Unique storm identifier through life of the storm	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
storm_number	Given for only named storms leveraging JMA data. Othewise null	integer		null	Y
storm_id	Storm id. Format will vary by source. Not unique globally	string		EP022002	N
storm_name	Name assigned by issuing agency. Named storms are in proper case	string		Alberto	N
source	Issuing Agency	string	NHC, CPHC, JTWC	NHC	N
basin	Basin identifier.	string	AL, CP, EP, IO, SH, WP NHC reports for: AL and EP CPHC report for CP JTWC reports for: EP, CP, IO, SH, WP	EP	N
dsgnt_source	true if a TWC selected provider	boolean	true or false	TRUE	N
issue_office	office issuing bulletin	string		KNHC	N
pil	The Product Identification Label advisory issued by the NHC, WPC or JTWC.	string	TCP, TCM, TCU, TCW currently - will expand with future releases	TCP	Y
wmo_id	For sources NHC, WPC and JTWC this data field will contain a value	string		WTPZ34	Y
bulletin_id	Internal use only	string		a87e1880a4870ae1b7d21049151d5edfa4e1011e	N
related_bulletin_id	Internal use only	string		a87e1880a4870ae1b7d21049151d5edfa4e1011f	N
issue_dt_tm	Time Issuing Agency creates the bulletin	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T01:00:00-00:00	N
issue_dt_tm_tz_cd	IANA code for issue_dt_tm	string		America/New_York	N
issue_dt_tm_tz_abbrv	Time zone abbreviation for issue_dt_tm	string		EDT	N

process_time_gmt	Time SUN processed bulletin	epoch		1421175600	N
adv_num	Issuing Agency advisory number	string		12A	Y
adv_dt_tm	Advisory time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:15-08:00	N
adv_dt_tm_tz_cd	IANA code for adv_dt_tm	string		America/New_York	N
adv_dt_tm_tz_abbrv	Time zone abbreviation for adv_dt_tm	string		EDT	N
nxt_cmplt_advsry_dt_tm	Anticipated next advisory issue time. Is null if final_advisory = true OR we could not extract next update time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:00-08:00	Y
nxt_cmplt_advsry_dt_tm_tz_cd	IANA code for nxt_cmplt_advsry_dt_tm	string		America/New_York	Y
nxt_cmplt_advsry_dt_tm_tz_abbrv	Time zone abbreviation for nxt_cmplt_advsry_dt_tm	string		EDT	Y
nxt_intrmdt_advsy_dt_tm	Anticipated next public advisory issue time. Is null if final_advisory = Y OR we could not extract next update time	date	ISO 8601 – YYYY-MM-DDTHH:MI:SS±HHMI or Z	2015-01-13T10:00:00-08:00	Y
nxt_intrmdt_advsy_dt_tm_tz_cd	IANA code for nxt_intrmdt_advsy_dt_tm	string		America/New_York	Y
nxt_intrmdt_advsy_dt_tm_tz_abbrv	Time zone abbreviation for nxt_intrmdt_advsy_dt_tm	string		EDT	Y
final_advisory	Indicates the final advisory issued from the primary source. The value only mirrors the indication within an advisory itself that it is the final advisory. However, it is possible that an issuing office may reissue an advisory if the storm moves back into their area of responsibility.	boolean	true or false. Currently the primary source is NHC. Other primary sources will be added as basins are added	false	N
alternate_final_advisory	Indicates final advisory issued from alternate source	boolean	true or false. Currently the alternate source is WPC. Other alternate sources will be added as basins are added		N
expire_time_gmt	168 hours past the last advisory time. Suggested removal time.	epoch		1421175600	N
Current Position Object					
lat	Current latitude of the storm	decimal	Negative if in the Southern Hemisphere	42.50	N
lat_hemisphere	Latitude hemisphere	string	N,S	N	N
lon	Current longitude of the storm	decimal	Negative if in the Western Hemisphere	-59.80	N
lon_hemisphere	Longitude hemisphere	string	E,W	W	N
storm_number	Given for only named storms leveraging JMA data. Othewise null	integer		null	Y
storm_type_cd	Encoded storm type	string	TD, TS, HU, SS, PT, RO, SD, EX, LOW, PTC, TY, ST, TC,	HU	N
storm_type	Storm type	string	NHC, WPC storm types: Tropical Depression, Tropical Storm, Hurricane, Subtropical Storm, Post-tropical cyclone, Remnants of, Subtropical Depression, Extratropical, Extra Tropical Low, Potential Tropical Cyclone JTWC storm types: Typhoon, Super Typhoon, Tropical Cyclone,	Hurricane	N
storm_sub_type_cd	Encoded storm sub type	string	1, 2, 3, 4, 5	1	Y
storm_sub_type	Storm sub type	string	Category 1 Hurricane Category 2 Hurricane Category 3 Hurricane	Category 1 Hurricane Note:	Y

			Category 4 Hurricane Category 5 Hurricane Category 1 Tropical Cyclone Category 2 Tropical Cyclone Category 3 Tropical Cyclone Category 4 Tropical Cyclone Category 5 Tropical Cyclone Cyclonic Storm Severe Cyclonic Storm Very Severe Cyclonic Storm Extremely Severe Cyclonic Storm Super Cyclonic Storm	In EP, CP, and AL, only storm_type=HU (Hurricane) has a sub_type In WP, no storm_type has a sub_type In IO and SH, storm_type=TC (Tropical Cyclone) has a sub_type. If storm_type=TC in another basin, it will not have a sub_type.	
headline [list]	List of headlines. [list]	object	For NHC data headline is US English only and will be populated when available (Pil = TCP and TCU). For JTWC the data headline will be null.		Y
	Headline extracted from bulletin	string	Always upper case	HURRICANE CONDITIONS EXPECTED TODAY	N
min_pressure	Minimum central pressure	decimal		29.50	Y
max_sustained_wind	Maximum sustained winds	integer		45	N
wind_gust	Wind gusts	integer		70	Y
heading	Heading information for the storm	object			N
storm_dir	Current direction of the storm in degrees	string	0 to 360 or stationary or drifting, meandering	340	N
storm_dir_cardinal	Cardinal wind direction	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Stationary, Drifting , Meandering	NNW	N
storm_spd	Forward speed of the storm	integer		12	Y
nearby_loc	Geographical references for a storm. [list of objects]	object	Only populated from TCP and TCU bulletin. For JTWC the data headline will be null.		Y
loc_nm	Location name	string	Always upper case	CAPE HATTERAS NORTH CAROLINA	N
dist	Distance from the center of the storm	integer		240	Y
dir_cardinal	Direction of loc_nm from the center of the storm	string	N, S,E,W, NNE, NE,ENE,ESE, SE, SSE, SSW, SW, WSW, WNW, NW,NNW, Stationary, Drifting , Meandering	N	Y
city_nm	Nearest city	string	Only for CONUS. Always in proper case	Cape Hatteras	Y
st_cd	Nearest state	string	Only for CONUS. Always in upper case	NC	Y
wind_radii	Storm wind radius values. [list of objects]	object			Y
radii_wspd	Wind speed for the associated quadrant	integer		64	N
NE	Distance from the center of the storm in the NE quadrant where radii_wspd begin	integer		75	N
SE	Distance from the center of the storm in the SE quadrant where radii_wspd begin	integer		75	N
SW	Distance from the center of the storm in the SW quadrant where radii_wspd	integer		80	N

	begin				
NW	Distance from the center of the storm in the NW quadrant where radii_wspd begin	integer		80	N
sea_radii	Wave Height Radius Values Object	object			Y
wave_height	Wave height for the associated quadrant	integer		12	N
NE	Distance from the center of the storm in the NE quadrant where wave_height values begin	integer		75	N
SE	Distance from the center of the storm in the SE quadrant where wave_height values begin	integer		75	N
SW	Distance from the center of the storm in the SW quadrant where wave_height values begin	integer		80	N
NW	Distance from the center of the storm in the NW quadrant where wave_height values begin	integer		80	N

JSON Sample


```
{
"metadata": {
"language": "en-US",
"transaction_id": "1465842536928:-658417609",
"version": "2",
"nautical": "true",
"units": "e",
"basin": "EP",
"source": "default",
"expire_time_gmt": 1465864137,
"status_code": 200
},
"advisoryinfo": [
{
"storm_key": "90455b3b3abdeb027b03da275751b075",
"storm_id": "EP012016",
“storm_number” null
"storm_name": "One-E",
“alternate_storm_name”: null,
"source": "NHC",
"dsgnt_source": true,
"basin": "EP",
"issue_office": "KNHC",
"wmo_id": "WTPZ31",
"pil": "TCP",
"bulletin_id": "88488F924CEC18AD5E9D86916C551E11",
"related_bulletin_id": "10ACA5E74519E855204B6A7A00958510",
```

```
"issue_dt_tm": "2016-06-08T14:34:00Z",
"issue_dt_tm_tz_cd": "Etc/UTC",
"issue_dt_tm_tz_abbrv": "UTC",
"adv_num": "8",
"adv_dt_tm": "2016-06-08T10:00:00-05:00",
"adv_dt_tm_tz_cd": "America/Chicago",
"adv_dt_tm_tz_abbrv": "CDT",
"nxt_cmplt_advsry_dt_tm": null,
"nxt_cmplt_advsry_dt_tm_tz_cd": null,
"nxt_cmplt_advsry_dt_tm_tz_abbrv": null,
"nxt_intrmdt_advsry_dt_tm": null,
"nxt_intrmdt_advsry_dt_tm_tz_cd": null,
"nxt_intrmdt_advsry_dt_tm_tz_abbrv": null,
"process_time_gmt": 1465403223,
"expire_time_gmt": 1466002800,
"final_advisory": true,
"alternate_final_advisory": false,
"currentposition": {
"lat": 16.4,
"lat_hemisphere": "N",
"lon": -94.8,
"lon_hemisphere": "W",
"storm_type_cd": "RO",
"storm_type": "Remnants Of",
"storm_sub_type_cd": null,
"storm_sub_type": null,
"headline": [
"DEPRESSION DISSIPATES ALONG THE SOUTHEASTERN MEXICO COASTLINE"
],
"min_pressure": 29.77,
"max_sustained_wind": 20,
"wind_gust": 30,
"heading": {
"storm_dir": "360",
"storm_dir_cardinal": "N",
"storm_spd": 3
},
"nearby_loc": [
{
"loc_nm": "SALINA CRUZ MEXICO",
"dist": 26,
"dir_cardinal": "ENE",
"city_nm": null,
"st_cd": null
```

```
}
],
"wind_radii": [],
"sea_radii": null
}
}
]
}
```

History on Demand (HoD) - Direct - v3

Domain Portfolio: Conditions | Domain: Historical | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The Intent of the History on Demand APIs

The History on Demand (HoD) APIs provide access to global, historical weather data. Historical weather data is prevalent in trend analysis and the training of analytical models pertaining to energy, agriculture, insurance and many other industries. These APIs serve the same data, but allow you to collect that data the way that works best for you. Each has its own style of interaction, allowable query types, delivery mode, and restrictions. Select the API that suits your usage style, desired data format and delivery mechanism. **HoD Direct** (this API) is a synchronous approach, and **HoD Archive** (the other API) is asynchronous. Information common to both is centralized within one document, which is linked, where necessary, from within each respective API document.

The API

HoD Direct is a synchronous API. Users specify the geospatial and the temporal facets of the query in the URL, and the data is returned in the response. See the Data Layers section in the HoD Common Information document for details on data layers served by the HoD APIs. The API implements paging, so that no single request takes excessively long to come back. It also allows for the specification of a geolocation in multiple formats, explained below. The format of the data in a successful response is dictated by the **`format`** specified in the request. The format of all other responses (request validation errors, etc.) is json.

Caching and Content Type

This API does not use response caching and is not sensitive to headers (e.g. Accept, Accept-Encoding). Response type is dictated by the `format` parameter..

Special Considerations Regarding Your Use of this API

- We have prepared a Postman Collection for your convenience in interacting with the API. Feel free to download it, and customize it for your needs.
- If this is your first time accessing the API, we strongly recommend you review the Example API Interaction for a walkthrough in how to use **HoD Direct**.
- For a complete understanding of the rules and interpretation on date and date/time expressions sent to the API, see the Date / Time Inputs and Interpretation section in the HoD Common Information document.
- There are several ways to specify a location you wish to query. See Parameters Specific to Location section of this document.
- Calls to this API will record usage for your API key, viewable through the /usage endpoint. See the HoD Usage section in the HoD Common Information document.
- **This API implements paging**, which is explained in the Paging section.
- For API Usage calculations, see Usage Calculation in the HoD Common Information document.
- This API is supplemented by the HoD Utility API. Details can be found in the corresponding section of the HoD Common information document.

Atomic Endpoints

v3/wx/hod/r1/direct
v3/wx/hod/r1/usage

URL Construction

Request Data
Method: GET
Required Request Parameters: apiKey, startDateTime, endDateTime, format, units, [some location specification]
Optional Request Parameters: geocode, wkt, icaoCode, iataCode, postalKey, weighted, pageNumber, compact
https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&startDateTime=<**startDateTime**>&endDateTime=<**endDateTime**>&format=<**format**>&units=<**units**>&apiKey=**yourApiKey**

https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&pageNumber=3&compact=false&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&weighted=true&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&pageNumber=3&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&products=Temperature,
EvapoTranspiration&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&pageNumber=3&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&products=all&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&pageNumber=3&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?wkt=POINT%20(25.807199%20-80.122034)&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?icaoCode=VQPR&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?iataCode=CGH&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&apiKey=**yourApiKey**
https://api.weather.com/v3/wx/hod/r1/direct?postalKey=100-6210:JP&startDateTime=2020-05-01T00Z&endDateTime=2020-05-15T00Z&format=json&units=e&apiKey=**yourApiKey**

For **HoD Usage** URL construction, see the HoD Usage section in the HoD Common Information document.

For **HoD Utility** URL construction, see the HoD Utility section in the HoD Common Information document.

Valid Parameter Definitions

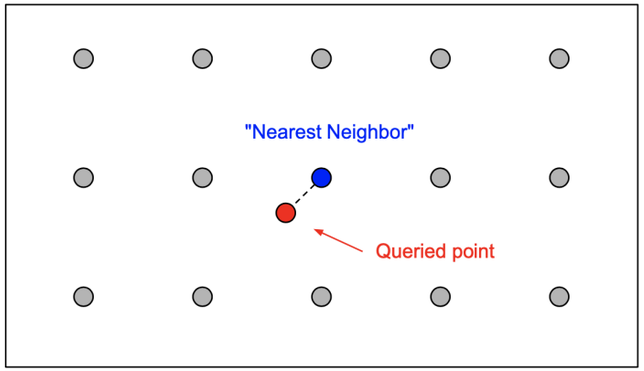
GET /v3/wx/hod/r1/direct

Parameter	Description	Example
startDateTime	The beginning of the analysis period. Must be before endDateTime. **Inclusive.** See Date / Time Inputs and Interpretation	**startDateTime**=20200501T00Z
endDateTime	The end of the analysis period. Must be after startDateTime. **Exclusive.** See Date / Time Inputs and Interpretation	**endDateTime**=20200515T00Z
format	The desired format of the resulting data: **json** or **csv**	**format**=json
units	Unit system in which the response should be expressed: Must be one of 'e', 'english', 'm', 'metric', 's', or 'si	**units**=s
compact	Boolean: whether you would prefer json response to be in "compact array" format. If false, natural JSON format is used. Default = true.	**compact**=false
products	The case-insensitive list of products whose data should be included in the response Omission results in all gCOD products “all” results in all available weather products. See special note in "weighted" parameter description	**products**=temperature,evapotranspiration **products**=all
Parameters specific to Location		
geocode	comma-separated "`latitude,longitude`" expression	**geocode**=`-27.125736,-109.276746` (no spaces)
wkt	Valid Well-Known-Text spatial geometry representation See Location Specification section in the HoD Common Information document Supports POINT, BBOX, and POLYGON	**wkt**=`POINT (40.748582 -73.986034)` (must be URL encoded: spaces = %20 or +)
ICAO code	see ICAO Airport Code	**icaoCode**=VQPR
IATA code	see IATA Airport Code	**iataCode**=CGH
postal Key	in the format [postal Code]:[2-digit country code]	**postalKey**=100-6210:JP
weighted	Exclusively used with point queries, indicates that the desired data should be an interpolation of the values from the four nearest neighboring grid points, rather than the values of the single nearest neighboring grid point. the default value is `false`. **Special Note about weighted average and choosing specific products in the request**: specifying `weighted=true`, while also explicitly specifying `products` upon which weighted averaging cannot be performed, will result in a validation error. Example: `...&weighted=true&products=iconCode` (which is an enumerated value)	**weighted**=true
Parameters specific to paging		
pageNumber	Integer value indicating the page of data desired as the response to the call.	**pageNumber=3**

For **HoD Usage** Valid Parameter Definitions, see the HoD Usage section in the HoD Common Information document.

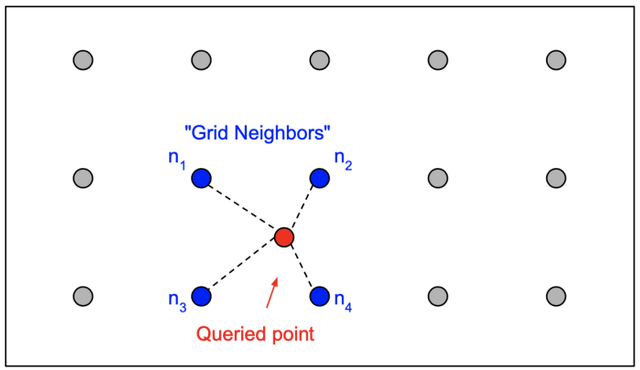
For **HoD Utility** Valid Parameter Definitions, see the HoD Utility section in the HoD Common Information document.

Point Query Types



Nearest Neighbor

The nearest neighbor query is the default point query. Any point query which does not include the "`weighted=true`" parameter, is a nearest neighbor query. The data returned is said to be "representative of" the queried point. In the result set for a nearest neighbor query, there is differentiation between the "`requestedLatitude / requestedLongitude`" and the [nearest neighbor] "`latitude / longitude`" to highlight where the representative data was drawn from. It is also important to note that if the point queried is specified via `postalKey`, `icaoCode` or `iataCode`, the expression is first sent to Location Services to resolve it to the geolocation with which it is associated. Then *that point* is resolved to a nearest neighboring grid point.



Weighted Average

The weighted average query is a specialized point query in which the values are calculated from the values of the four nearest neighboring grid points. This is true for each of the weather aspects (Temperature, Wind Speed, etc.) stored at the grid locations. There are three exceptions: `Driving Difficulty Index`, `Icon Code`, and `Icon Code Extended`. These values will always be null for a point queried using a weighted average query. These are enumerated rather than scalar values, therefore averaging them is meaningless. Please note the special relationship between the `products` parameter and weighted queries. Explicitly choosing `products` to which the weighted average algorithm cannot be applied will result in a validation error. If the `products` parameter is either omitted or is set to "`all`", the API will behave normally, simply omitting the irrelevant products as described.

The math behind the Inverse Distance Weighted Average algorithm is as follows:

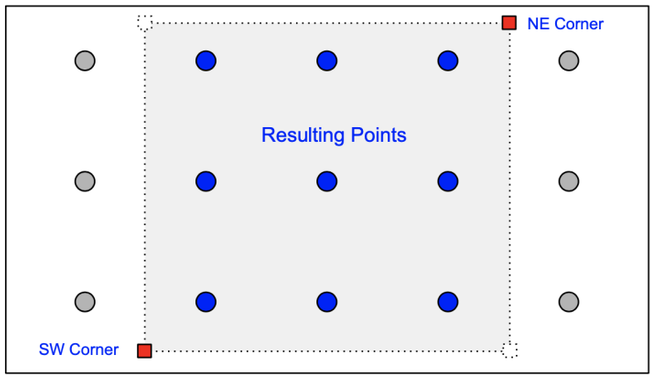
$$\frac{\sum \text{weatherValue}[n] \;/\; \text{distance}[n]}{\sum 1 \;/\; \text{distance}[n]}$$

That is, using Temperature as an example, the sum of each neighbor's Temperature value over their distance (in meters) from the queried point, all over the sum of the reciprocal (multiplicative inverse) of each neighbor's distance from the queried point. In the response to a weighted point query, you will notice that the "`requestedLatitude / requestedLongitude`" and the "`latitude / longitude`" will be the same coordinate pair, since the values returned have been mathematically calculated to represent that point. One final technical piece of information regards the elevation of the queried point, and the elevation variations of the neighbors whose values are used to calculate the average. Since the observations recorded for each grid point occur at different elevations, to truly normalize neighboring values, one would have to adjust those neighbors' values that are sensitive to elevation (e.g. Temperature, Pressure), such that each neighbor would be "raised" or "lowered" to the elevation of the queried point. Only then could they be considered mathematically equal participants in the average calculation. Superimposing a "Digital Elevation Model" on the gridded data in this way is a feature being investigated. This information is provided for meteorological consideration. Its significance will depend upon the variation in the terrain surrounding the queried point.

Boundary Query Types

Boundary queries allow you to specify geospatial areas. The result of these queries will be the set of all grid points contained within the area specified. Edges are inclusive, meaning any grid point falling precisely on the border of a specified area will be considered "contained" within the area. Note that the projection of any specified geospatial area on the Earth will cause some minor variance in the precision of the determination of containment.

This type of query can by nature produce results that are quite large. As such the API is configured to curtail the workload any one caller can produce. These limitations are fairly generous and should adequately suit any focused query. For much larger data sets, consider using HoD Archive. The limitation for any bounding box, or for the rectangle said to "minimally contain" a specified polygon, has been initially set to 2 million km^2 . This setting is subject to change at any time. Beyond that geospatial limitation, resulting data sets have been initially limited to 100,000 records, or 10 pages of data (page size has been initially set to 10,000 records). When designing your boundary query, consider that the total record count is **`[# grid points contained in boundary] x [# hours queried]`**. Also note that the results will come back in point-first order, meaning all the hours for the first point, then all the hours for the next point, and so on. Validation messages will be very helpful when constructing and running boundary queries.

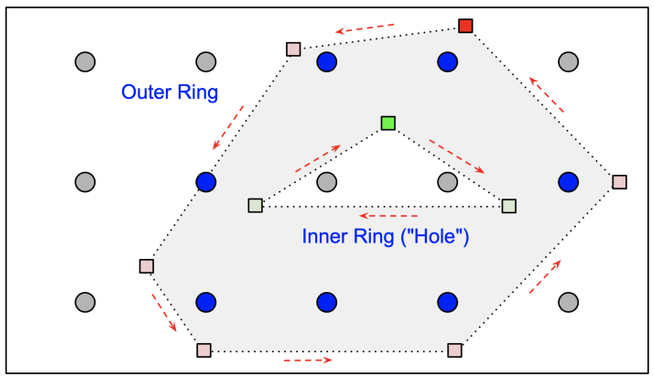


Bounding Box

Bounding Box ("bbox") queries are a simple way to capture a [projected] "rectangular" area on the surface of the Earth.

`BBOX ((SW_lat SW_lon), (NE_lat NE_lon))`

In this example, the BBOX expression would specify the southwestern red point, then the northwestern red point, resulting in 9 grid points for each hour queried.



Polygon

Polygon queries are more complicated to specify, but can be very useful to query oddly shaped areas. Polygons should be specified using the Geoshape WKT for Geometries Standard. This details important aspects of how to define a polygon so that it is properly interpreted. At left, we have an outer ring starting (and ending) with the red square, listing its vertices in counter-clockwise order. The inner ring starts (and ends) with the green square, listing its vertices in clockwise order.

One thing to remember when designing a polygon query is the grid data density. A poly whose detail is more granular than the density of the data could entirely miss available nearby grid points.The area limitation for polygons is implemented in HoD Direct as follows: first, the API checks the area of a rectangle just barely big enough to contain the outer ring, then it checks the product of the number of data points the poly encases and the number of hours queried.

`POLYGON ((outer_pt1_lat outer_pt1_lon, outer_pt2_lat outer_pt2_lon, . . . , outer_pt1_lat outer_pt1_lon), (inner_pt1_lat inner_pt1_lon, inner_pt2_lat inner_pt2_lon, . . . , inner_pt1_lat inner_pt1_lon))`

VERY IMPORTANT

The HoD Direct API is configured to return data in pages if the entire dataset exceeds the configured page size. **The page size is internally managed and may change at any time** based upon performance observations. This means that if interactions with the API do not accommodate paging, a query that once returned the entirety of the desired data set might suddenly only return a page of that data set. It is therefore advisable to integrate paging into programmatic interactions with the API.

Any call to the API which will require paged calls to fully retrieve the data will include a **`Next-Page-Number`** header, with an integer page number, along with the response. That integer value should be supplied in the next request, in a request parameter called **`pageNumber`**. Any nonsensical values (negative page numbers, page numbers beyond the last page of a result) will be dealt with as follows: negatives are changed to 0, values larger than the last page number will result in a **`204 - No Content`**.

Pseudo code for programmatically accommodating paging is as follows:

```
set up query (dates, point, format, etc.)

make first call
store result locally

while (next-page-number header is present in response)

  make same call with param pageNumber=[val from response header]
  append to local result

done
```

Data Elements & Definitions

HoD Direct now serves weather products from multiple datasets. Currently the datasets are Gridded Currents on Demand (gCOD) and Agriculture and Energy (AgE).
See the Data Elements & Definitions section in the HoD Common Information document for details on datasets available in the response.
There are a few important points regarding requests and responses involving multiple datasets:

- The **`products`** request parameter can be used to customize the content in the response.
    - omitting the **`products`** parameter will yield a response including only the gCOD products, which has been the case since the API's inception.
    - **`products=all`** will yield a response including all weather products from all datasets. This is the best way to discover the names of the products you can specify.
    - those product identifiers can then be used in a case-insensitive expression. E.g. **`products=temperature,temperatureDewpoint,evapotranspiration,globalHorizontalIrradiance`**
- The timestamp on the hourly data will react to which products are requested.
    - All data served by HoD Direct is hourly data, so any given weather product's hourly value is said to be representative of that hour, even though the production timestamps of the data may differ from dataset to dataset.
    - gCOD's production timestamp is always `":20"` minutes after the hour
    - AgE's production timestamp is always `":00"` minutes after the hour
    - Therefore, if the request only includes gCOD values, the hourly timestamps will look like: `"validTimeUtc": "2022-11-01T21:20:00+0000"`
    - If any AgE product is included in the response, the hourly timestamps will default to `":00"` minutes: `"validTimeUtc": "2022-11-01T21:00:00+0000"`

For **HoD Usage** Data Elements & Definitions, see the HoD Usage section in the HoD Common Information document.

For **HoD Utility** Data Elements & Definitions, see the HoD Utility section in the HoD Common Information document.

Validation Messages

Validation (400 BAD REQUEST) messages are very simple, clear and informative in this API, and all known validation issues are reported on each request.
For example, if you were to issue a query with just the base URL and a valid API Key, but no other required fields, you would get a response similar to the following:


```
{
    "status": 400,
    "errors": [
        {
            "fieldName": "startDateTime",
            "message": "Missing required field. Must be of the form yyyy-MM-dd'T'HH:mm:ssZ or yyyyMMdd'T'HHmmssZ."
        },
        {
            "fieldName": "endDateTime",
            "message": "Missing required field. Must be of the form yyyy-MM-dd'T'HH:mm:ssZ or yyyyMMdd'T'HHmmssZ."
        },
        {
            "fieldName": "format",
            "message": "Missing required field. Must be 'csv' or 'json'."
        },
        {
            "fieldName": "units",
            "message": "Missing required field. Must be one of 'e', 'english', 'm', 'metric', 's', or 'si'."
        },
        {
            "fieldName": "geocode",
            "message": "Missing required field. Must be of the form latitude,longitude with values in decimal degrees (e.g. 33.916,-84.341)."
        }
    ]
}
```

Example API Interaction

In this section are some simple examples of the ways you can interact with the API. Note that the **apiKey** parameter would be required in all cases.

Request Data - all gCOD vars only

REQUEST **GET /v3/wx/hod/r1/direct?geocode=25.807199,-80.122034&startDateTime=2020-05-01T00Z &endDateTime=2020-05-15T00Z&format=json&units=e&compact=false&apiKey =**	**RESPONSE Body** (fake data, one partial object in a list)	**RESPONSE Headers**
	[{ "requestedLatitude": 25.807199, "requestedLongitude": -80.122034, "latitude": 25.824, "longitude": -80.112, "gridpointId": "value", "validTimeUtc": "2021-04-05T12:14:04+0000", "drivingDifficultyIndex": 0, "iconCode": 31, "iconCodeExtended": 1800, "precip1Hour": 0.0194785, "precip6Hour": 0.59179074, . . . [omitted content] . . . "temperature": 0.8188712, "temperatureChange24Hour": 0.80135256, "temperatureMax24Hour": 0.21653223, "temperatureMin24Hour": 0.06830543, "temperatureDewPoint": 0.032562375, "temperatureFeelsLike": 0.41878968, "uvIndex": -92, "visibility": 0.11596674, "windDirection": 0.4087097, "windGust": 0.05093181, "windSpeed": 0.77035826 }, . . .]	**Request-Id**=[ID assigned to your query] This header specifies the Request Id. It can be used for inquiries. **Content-Disposition**=attachment;filename=hod-direct-[Request ID] This header indicates that the response will be an attachment to be downloaded and saved locally, rather than displayed inline. If you are using tools like Curl, Postman, or a programming language, you can control how this is handled. Most browsers will honor the header and download the response as an attachment. **Content-Type**=[content type] This header reflects the response format chosen by the caller. ("application/json", "text/csv", etc.) **Next-Page-Number**=[integer] If the query result is paginated, and if there is a next page, this header specifies integer page number to be sent in request parameter **pageNumber** in order to retrieve the next page of data. If either of those conditions is not true, the header is not included in the response.

Request Data - all available data

REQUEST	RESPONSE Body	RESPONSE Headers
GET /v3/wx/hod/r1/direct?geocode=41.0,&startDateTime=2020-08-01T18Z&endDateTime=2020-08-15T19Z&format=json&units=e&compact=false&products=all&apiKey=	(fake data, one partial object in a list)	
Note the inclusion of the **products=all** parameter	same as gCOD only, except will include 2 AgE fields if query time range contains hours for which the AgE dataset is present [{ . . . "evapotranspiration": 0.0, "globalHorizontalIrradiance": 258.1, . . .]	same as previous

Request Data - only specific weather products across datasets

REQUEST	RESPONSE Body	RESPONSE Headers
GET https://api.weather.com/v3/wx/hod/r1/direct?geocode=41.0,&startDateTime=2020-08-15T18Z&endDateTime=2020-08-15T19Z&format=json&units=e&compact=false&products=temperature,temperatureDewpoint,evapotranspiration,globalHorizontalIrradiance&apiKey=	(fake data, one partial object in a list)	

Customize your response by including only those fields you need.
 	
The example specifies:
products=temperature,temperatureDewpoint,evapotranspiration,globalHorizontalIrradiance
	[
	{
	"requestedLatitude": 41.0,
	"requestedLongitude": 0.0,
	"latitude": 40.989010989010985,
	"longitude": -3.084749914705753E-5,
	"gridpointId": "ezrcpvzfr32yx",
	"validTimeUtc": "2020-08-15T18:00:00+0000",
	"evapotranspiration": 0.0,
	"globalHorizontalIrradiance": 194.9,
	"temperature": 81.2,
	"temperatureDewPoint": 65.0
	}
	]
		same as previous

For **HoD Usage** API Interaction, see the HoD Usage section in the HoD Usage section in the HoD Common Information document.

For **HoD Utility** API Interaction, see the HoD Utility section in the HoD Common Information document.

Pollen Historical - v3

Domain Portfolio: Lifestyle | Domain: Health | Usage Classification: Standard

Geography: U.S. Only **Attribution Required:** No **Attribution Requirements:** N/A

Overview

The historical pollen API provides historical indices for Grass, Ragweed, and Tree pollen. For the specified time period.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Note: Data to be used with this API is available from 2013-12-12 16:00 Z to present.

Atomic Endpoints	Aggregate Product Names
v3/wx/indices/pollen/historical/1month	v3-wx-indices-pollen-historical-1month
v3/wx/indices/pollen/historical/1week	v3-wx-indices-pollen-historical-1week
v3/wx/indices/pollen/historical/1day	v3-wx-indices-pollen-historical-1day

URL Construction

Request by Geocode: Required Parameters: geocode, language, format,yearMonth (1month), weekOf (1week), date (1day), apiKey https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**geocode=<geocode>**&language=<language>&format=<format>&**yearMonth=<yearMonth>**&**apiKey=<apiKey>**
https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**geocode=33.33,-83.22**&language=en-US&format=json&**yearMonth=201708**&**apiKey=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, language, format, yearMonth (1month), weekOf (1week), date (1day), apiKey https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**iataCode=<iataCode>**&language=<language>&format=<format>&**yearMonth=<yearMonth>**&**apiKey=<apiKey>**
https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**iataCode=LGA**&language=en-US&format=json&**yearMonth=201708**&**apiKey=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, language, format, yearMonth (1month), weekOf (1week), date (1day), apiKey https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**icaoCode=<icaoCode>**&language=<language>&format=<format>&**yearMonth=<yearMonth>**&**apiKey=<apiKey>**
https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**icaoCode=KATL**&language=en-US&format=json&**yearMonth=201708**&**apiKey=yourApiKey**
Request by Place ID: Required Parameters: placeid, language, format, yearMonth (1month), weekOf (1week), date (1day), apiKey https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**placeid=<placeid>**&language=<language>&format=<format>&**yearMonth=<yearMonth>**&**apiKey=<apiKey>**
https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**placeid=ee0214ae7fb1d265f3e4d2509e77557119b2cac9d0ac1013b593c74a1567f2b7**&language=en-US&format=json&**yearMonth=201708**&**apiKey=yourApiKey**

Request by Postal Key: Required Parameters: postalKey, language, format, yearMonth (1month), weekOf (1week), date (1day), apiKey
https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**postalKey=<postalKey>**&language=<language>&format=<format>&**yearMonth=<yearMonth>**&**apiKey=<apiKey>**

https://api.weather.com/v3/wx/indices/pollen/historical/**1month**?**postalKey=30339:US**&language=en-US&format=json&**yearMonth=201708**&**apiKey=yourApiKey**

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
weekOf	YYYYMMDD	Only valid for 1week endpoint. The weekOf parameter is used to call specific week requests - used for API requesting past or historical data requests. Dates are requested using date format “YYYYMMDD”. This would be used for example if a product returns xx number of days of historical content beginning the week of a given start date, weekOf=YYYYMMDD’ will allocate a start date equal to the Monday start of the week for any date that falls within a week (starting the date of the full week starting on Monday). Example: weekOf=YYYYMMDD and that specific date is on a Wednesday, then the date will be interpreted as the Monday of that week.
yearMonth	YYYYMM	Only valid for 1month endpoint. The yearMonth parameter is used to call specific months - used for API requesting past or historical data requests. The format is “YYYYMM”.
date	YYYYMMDD	Only valid for 1day endpoint. The date parameter is used to call specific dates requests - used for API requesting past or historical data requests. Dates are requested using date format “YYYYMMDD”.

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
reportTimeLocal	The report date in local apparent time.	[ISO]	ISO 8601 - YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-05:00	N
grassPollenDescription	Descriptive text of Grass Pollen Index	[string]		low	Y
grassPollenIndex	Forecast Grass Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	Y
ragweedPollenDescription	Descriptive text of Ragweed Pollen Index	[string]		low	Y
ragweedPollenIndex	Forecast Ragweed Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	Y
treePollenDescription	Descriptive text of Tree Pollen Index	[string]		low	Y
treePollenIndex	Forecast Tree Pollen Index. 0=none / out of season, 1=low, 2=moderate, 3=high, 4=very high	[integer]	0-4	1	Y

JSON Sample

// Response Collapsed for Presentation Purposes

{
reportTimeLocal: ["2017-08-10T12:28:37-04:00","2017-08-11T12:28:37-04:00","2017-08-12T12:28:37-04:00"],
treePollenIndex: [1,0,null],
treePollenDescription: [“low”, “none”, null],

grassPollenIndex: [1,0,null],
grassPollenDescription: [“low”, “none”, null],
ragweedPollenIndex: [1,2,null]
ragweedPollenDescription: [“low”, “moderate”, null]
}

Tropical Models - Detail - v3
Document Version 1.1

Domain Portfolio: Tropical | Domain: Models | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview
Returns all current models for the given stormId.

- **See the common usage and style guide which describes the common elements, error handling, language support, units and terminology used by the Weather Company Data APIs.**
  - **https://ibm.co/APICom**

HTTP Headers and Data Lifetime - Caching and Expiration
For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:
This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- latitudeHemisphere
- longitudeHemisphere
- stormType

URL Construction

Request by stormId: Required Parameters: stormId, format, language, units, nautical (true, false), apiKey https://api.weather.com/v3/tropical/models/detail?**stormId=<stormId>**&format=json&language=en-US&units=e&nautical=true&**apiKey=yourApiKey**
https://api.weather.com/v3/tropical/models/detail?**stormId=CP102017**&format=json&language=en-US&units=e&nautical=true&**apiKey=yourApiKey**

Nautical Parameter
If nautical=true, then any measurement that could be represented as knots is, regardless of the units parameter. Anything that is not subject to nautical form is left in the requested units (which is why you see pressures switch back and forth with units even when nautical=true)

units=e&nautical=true will give pressures in inches-of-mercury and speeds in knots units=m&nautical=true will give pressures in millibars and speeds in knots units=e&nautical=false will give pressures in inches-of-mercury and speeds in mph units=m&nautical=false will give pressures in millibars and speeds in kph

Wind Averaging Period

Governmental organizations providing tropical data use different periods of time when averaging wind values. The United States uses 1 minute values, New Delhi uses 3 minute values and all others use a 10 minute value. This applies to the following fields found in the payload

Model Details : winds

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
basin	Basin identifier	string	AL, CP, EP	EP	No
expireTimeUTC	Suggested removal time, 14 hours past the ingestion time.	epoch		1421175600	No
forecastPeriod	Forecast period time steps.	[integer]		[0, 12, 24]	No
latitude	Latitude of the storm.	[decimal]	Any valid latitude value.	[72.30, 70.20, 69.30]	No
latitudeHemisphere	Latitude hemisphere of the storm.	[string]		["N", "N", "N"]	No
linkedStormId	The associated Storm ID assigned to the storm identified from the model.	string		EP012017	Yes
longitude	Longitude of the storm.	[decimal]	Any valid longitude value.	[112.00, 113.40, 115.20	No
longitudeHemisphere	Longitude hemisphere of the storm.	[string]		["W", "W", "W"]	No
modelTimeUTC	Time that the model was run.	[integer]		[1421175600, 1421175600, 1421175600]	No
pressureMin	Minimum central pressure	[decimal]		[1002.00, 1003.00, 1004.00]	No
processTimeUTC	Time that the bulletin was processed.	epoch		2471984402	No
radiusMaxWinds	The distance between the center of a cyclone and its band of strongest winds	interger	0 to 999	999	No
source	Issuing Agency	string	NHC, other valid sources.	NHC	No
stormId	The Storm ID of this storm.	string		EP902017	No
stormType	Type of the storm at this moment.	[string]	Tropical Depression Hurricane Extratropical Subtropical Storm Remnants Of Tropical Storm Subtropical Depression Post-Tropical Cyclone Typhoon Super Typhoon Tropical Cyclone Unknown Tropical Low	["Unknown", "Unknown","Tropical Depression"]	No

			Tropical Wave Tropical Disturbance Inland Dissipating Extrapolated Potential Tropical Cyclone		
stormTypeCode	Type code of the storm at this moment.	[string]	TD=Tropical Depression HU=Hurricane EX=Extratropical SS=Subtropical Storm RO=Remnants Of TS=Tropical Storm SD=Subtropical Depression PT=Post-Tropical Cyclone TY=Typhoon ST=Super Typhoon TC=Tropical Cyclone XX=Unknown LO=Tropical Low WV=Tropical Wave DB=Tropical Disturbance IN=Inland DS=Dissipating ET=Extrapolated PTC=Potential Tropical Cyclone	["XX", "XX", "TD"]	No
technique	The model technique used to create the forecast model.	[string]		["CC00", "CC00", "CC00"]	No
windSustainedMax	Maximum sustained wind speed	[integer]		[35, 38, 37]	No
winds	Winds Object [array of 3 objects]	[object]			No
windSpeed	windSpeed [3 windSpeed objects] Containing (NE, SE, SW, NW) Speed of winds specified by the units applied.	[object]			No
windSpeed	Speed of winds specified by the units applied.	integer	34, 50, 64 in nautical mode, windSpeed is subject to conversions	34	No
NE	Distance that winds extend to the Northeast	[integer]		[0, 118, 124]	No
SE	Distance that winds extend to the Southeast	[integer]		[89, 84, 0]	No
SW	Distance that winds extend to the Southwest	[integer]		[106, 107, 118]	No
NW	Distance that winds extend to the Northwest	[integer]		[122, 135, 122]	No

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
basin:"CP",
expireTimeUTC:1489161600,
forecastPeriod:[12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, -24, -18, -12, -6, 0, 0, 12, 24, 36, 48,…],
latitude:[22.5, 23.5, 24.1, 24.5, 24.4, 24, 23.6, 23.2, 23.1, 23.4, 23.9, 24, 23.6, 22.8, 18.6, 19.2, 19.7,…],
latitudeHemisphere:["N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N", "N",…],
linkedStormId:"CP302017",
longitude:[179.6, 178.7, 177.8, 177.1, 176.5, 175.9, 175.2, 174.6, 173.7, 172.5, 170.5, 168.1, 165.7, 164.2,…],
longitudeHemisphere:["E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "E", "W", "W", "W", "W", "W", "W",…],
modelTimeUTC:[1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200, 1489111200,…],
pressureMin:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 27.96, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
processTimeUTC:1488986792,
radiusMaxWinds: 999,
source:"NHC",
stormId:"CP102017",
stormType:["Unknown", "Unknown", "Unknown", "Unknown", "Unknown", "Unknown", "Unknown", "Unknown", "Unknown",…],
stormTypeCode:["XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "XX", "HU", "HU", "HU",…],
technique:["BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM", "BAMM",…],
windSustainedMax:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 115, 110, 110, 115, 115, 115, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
winds:[
{windSpeed:34,
NE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 140, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
NW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 110, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 110, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 70, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
},
{windSpeed:50,
NE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 70, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
NW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 60, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 60, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 40, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
},
{windSpeed:64,
NE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 35, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
NW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SE:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…],
SW:[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 20, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,…]
}
]
}
```

Forecast - Intraday 15 Day - v1.0

Domain Portfolio: Forecast | Domain: Intraday | Usage Classification: **Limited Availability**

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Intraday Forecast API is sourced from the The Weather Company Forecast system. This TWC API returns weather forecasts in 6-hour periods starting current day. The 6-hour periods are Morning, Afternoon, Evening, and Overnight. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Understanding Daily Forecasts

The Intraday Forecast product breaks down the days forecasts into (four) 6-hour segments for each of the included days.

Intraday Segment	Intraday Segment Name	Reference Description
1	Morning	7 AM - 1 PM Local Apparent Time; the midpoint defined as 10 AM.
2	Afternoon	1 PM - 7 PM Local Apparent Time; the midpoint defined as 4 PM.
3	Evening	7 PM - 1 AM Local Apparent Time; the midpoint defined as 10 PM.
4	Overnight	1 AM - 7 AM Local Apparent Time; the midpoint defined as 4 AM.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- daypart_name
- dow
- phrase32_char
- wdir_cardinal

URL Construction

Atomic API URL Examples:
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format, units
https://api.weather.com/v1/geocode/34.063/-84.217/forecast/intraday/15day.json?language=en-US&units=e&apiKey=**yourApiKey**
Request by Postal Code: Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>
https://api.weather.com/v1/location/30339:4:US/forecast/intraday/15day.json?language=en-US&units=e&apiKey=yourApiKey

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
class	Data identifier	string		fod_long_range_intraday	N	required
clds	6-hour average cloud cover expressed as a percentage.	integer	0 to 100	82	N	optional
daypart_name	The name for the 6-hour period of the day.	string	Morning Afternoon Evening Overnight	Morning	N	required
dow	Day of week	string		Thursday	N	required
expire_time_gmt	Expiration time in UNIX seconds	epoch		1369252800	N	required
fcst_valid	Time forecast is valid in UNIX seconds	epoch		1369306800	N	required
fcst_valid_local	Time forecast is valid in local apparent time.	ISO		2013-08-06T07:00:00-0400	N	required
icon_code	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer		26	N	required
icon_extd	Code representing explicit full set sensible weather. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer		5500	N	required
num	This data field is the sequential number that identifies each of the forecasted days in the API. They start on day 1, which is the forecast for the current day. Then the forecast for tomorrow uses number 2, then number 3 for the day after tomorrow, and so forth.	Integer	1 - 15	1	N	optional
phrase_12char	6-hour sensible weather phrase	string		Cloudy	N	required
phrase_22char	6-hour sensible weather phrase	string		Cloudy	N	required
phrase_32char	6-hour sensible weather phrase	string		Fog Late	N	required
pop	Daytime maximum probability of precipitation.	integer		20	N	required
precip_type	The short text describing the expected type accumulation associated with the Probability of Precipitation (POP) display for the hour.	string	rain,snow, precip	rain	N	required
qualifier	A qualifier sensible weather extension for the 6-hour period.	string		Winds could occasionally gust over 70 mph.	Y	optional
qualifier_code	6-hour sensible weather qualifier code.	string		Q9015	Y	optional
rh	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	integer	0 to 100	83	N	required
subphrase_pt1	Part 1 of 3-part daypart sensible weather phrase	string		Cloudy	N	optional
subphrase_pt2	Part 2 of 3-part daypart sensible weather phrase	string		Late	N	optional
subphrase_pt3	Part 3 of 3-part daypart sensible weather phrase	string		Thunder	N	optional
temp	The temperature of the air, measured by a thermometer 1.5 meters (4.5 feet) above the ground	integer	-140 to 140 (F)	68	N	required

	that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.					
wdir	6-hour average wind direction in magnetic notation.	integer	0 to 359	145	N	required
wdir_cardinal	6-hour average wind direction in cardinal notation.	string	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	N	required
wspd	The maximum forecasted 6-hour wind speed. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	integer		5	N	required

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1471548007907:1671560253",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1471548260,
      "status_code": 200
   },
   "forecasts": [
      {
         "class": "fod_long_range_intraday",
         "expire_time_gmt": 1471548260,
         "fcst_valid": 1471539600,
         "fcst_valid_local": "2016-08-18T13:00:00-0400",
         "num": 1,
         "temp": 90,
         "pop": 24,
         "icon_extd": 3000,
         "icon_code": 30,
         "dow": "Thursday",
         "daypart_name": "Afternoon",
         "phrase_12char": "P Cloudy",
         "phrase_22char": "Partly Cloudy",
         "phrase_32char": "Partly Cloudy",
         "subphrase_pt1": "Partly",
```

```
      "subphrase_pt2": "Cloudy",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 50,
      "wspd": 6,
      "wdir": 274,
      "wdir_cardinal": "W",
      "clds": 62,
      "qualifier_code": null,
      "qualifier": "A stray shower or thunderstorm is possible."
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471561200,
      "fcst_valid_local": "2016-08-18T19:00:00-0400",
      "num": 2,
      "temp": 79,
      "pop": 53,
      "icon_extd": 3809,
      "icon_code": 47,
      "dow": "Thursday",
      "daypart_name": "Evening",
      "phrase_12char": "Sct T-Storms",
      "phrase_22char": "Sct Thunderstorms",
      "phrase_32char": "Scattered Thunderstorms",
      "subphrase_pt1": "Scattered",
      "subphrase_pt2": "T-Storms",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 77,
      "wspd": 6,
      "wdir": 281,
      "wdir_cardinal": "W",
      "clds": 75,
      "qualifier_code": null,
      "qualifier": null
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471582800,
      "fcst_valid_local": "2016-08-19T01:00:00-0400",
      "num": 3,
```

```
      "temp": 74,
      "pop": 15,
      "icon_extd": 2900,
      "icon_code": 29,
      "dow": "Friday",
      "daypart_name": "Overnight",
      "phrase_12char": "P Cloudy",
      "phrase_22char": "Partly Cloudy",
      "phrase_32char": "Partly Cloudy",
      "subphrase_pt1": "Partly",
      "subphrase_pt2": "Cloudy",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 92,
      "wspd": 2,
      "wdir": 291,
      "wdir_cardinal": "WNW",
      "clds": 57,
      "qualifier_code": null,
      "qualifier": "A stray shower or thunderstorm is possible."
    },
    {
      "class": "fod_long_range_intraday",
      "expire_time_gmt": 1471548260,
      "fcst_valid": 1471604400,
      "fcst_valid_local": "2016-08-19T07:00:00-0400",
      "num": 4,
      "temp": 78,
      "pop": 43,
      "icon_extd": 3800,
      "icon_code": 38,
      "dow": "Friday",
      "daypart_name": "Morning",
      "phrase_12char": "Sct T-Storms",
      "phrase_22char": "Sct Thunderstorms",
      "phrase_32char": "Scattered Thunderstorms",
      "subphrase_pt1": "Scattered",
      "subphrase_pt2": "T-Storms",
      "subphrase_pt3": "",
      "precip_type": "rain",
      "rh": 80,
      "wspd": 4,
      "wdir": 279,
      "wdir_cardinal": "W",
```

```
            "clds": 52,
            "qualifier_code": null,
            "qualifier": null
        },
//This API will repeat additional times per response ** Collapsed for presentation purposes
{}, // - Response Repeats for Day 2
{}, // - Response Repeats for Day 3…
{} // - Response Repeats for Day 15
    ]
}
```

Air Quality - Global - v3.0

Domain Portfolio: Lifestyle | Domain: Health | Usage Classification: Standard

Geography: Global (any land area)

Attribution Required: YES

Attribution Requirements: All users of Copernicus Products must provide clear and visible attribution to the Copernicus Program. Where the Licensee communicates or distributes Copernicus Products to the public, the Licensee shall inform the recipients of the source by using the following or any similar notice: "**Powered by Copernicus Atmosphere Monitoring Service Information [Year]**". This is provided in each API response. Further, the following Disclaimer message must be provided: "**Neither the European Commission nor ECMWF is responsible for any use that may be made of the Copernicus Information or Data it contains.**" Where the Licensee makes or contributes to a publication or distribution containing adapted or modified Copernicus Products, the Licensee shall provide the following or any similar notice: **"Contains modified Copernicus Climate Change Service information [Year]";** and/or **"Contains modified Copernicus Atmosphere Monitoring Service information [Year]".** The ECMWF logo may be used as a link to the ECMWF or Copernicus web sites, but for no other purposes. The logo restriction is inclusive of, but not limited to, usage on web sites.

Air Quality - Terms of Use

- Attribution must be attributed as described in the 'Attribution Requirements'.
- Air quality data,and advisory statements should not be altered in any way and should be disseminated as received.
- Air quality observed values should be disseminated in accordance with the AQI and corresponding RGB colors as directed in the Appendix: Air Quality Index Table.
- If observational data are used for analyses, displayed on web pages, or used for other programs or products, the analysis results, displays, or products must indicate that these data are preliminary.
- Publications, analyses, products, and/or derived information that rely on these data must be noted with the following disclaimer "Created from Copernicus Atmosphere Monitoring Service Information [Year]" Disclaimer: Neither the European Commission nor ECMWF is responsible for any use that may be made of the information it contains.

NOTE:

- Not all pollutants are returned for all the scales
- Each scale has set pollutants returned

Overview

The Global Air Quality API includes an overall Air Quality Index, Air Quality Category Index and Category. This API also includes the principal pollutant type, measurement, index number and level, and any applicable health recommendation text. The Global Air Quality geographical coverage includes all land based areas in the world.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- airQualityCategory
- category
- disclaimer
- phrase
- text
- title
- source

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	**v3-wx-globalAirQuality**
Request by Geocode: Required Parameters: geocode, language, scale, format, apiKey https://api.weather.com/v3/wx/globalAirQuality?**geocode=<geocode>**&language=<language>&scale=<scale>&format=<format>&**apiKey=<ApiKey>**		
https://api.weather.com/v3/wx/globalAirQuality?**geocode=39.904,116.407**&language=en-US&scale=EPA&format=json&**apiKey=yourAPIKey**		
Request by IATA Code: Required Parameters: iataCode, language, scale, format, apiKey https://api.weather.com/v3/wx/globalAirQuality?**iataCode=<iataCode>**&language=<language>&scale=<scale>&format=<format>&**apiKey=<ApiKey>**		
https://api.weather.com/v3/wx/globalAirQuality?**iataCode=FCO**&language=en-US&scale=EPA&format=json&**apiKey=yourAPIKey**		
Request by ICAO Code: Required Parameters: icaoCode, language, scale, format, apiKey https://api.weather.com/v3/wx/globalAirQuality?**icaoCode=<icaoCode>**&language=<language>&scale=<scale>&format=<format>&**apiKey=<ApiKey>**		
https://api.weather.com/v3/wx/globalAirQuality?**icaoCode=LIRF**&language=en-US&scale=EPA&format=json&**apiKey=yourAPIKey**		
Request by Place ID: Required Parameters: placeid, language, scale, format, apiKey https://api.weather.com/v3/wx/globalAirQuality?**placeid=<placeid>**&language=<language>&scale=<scale>&format=<format>&**apiKey=<ApiKey>**		
https://api.weather.com/v3/wx/globalAirQuality?**placeid=25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd**&language=en-US&scale=EPA&format=json&**apiKey=yourAPIKey**		
Request by Postal Key: Required Parameters: postalKey, language, scale, format, apiKey https://api.weather.com/v3/wx/globalAirQuality?**postalKey=<postalKey>**&language=<language>&scale=<scale>&format=<format>&**apiKey=<ApiKey>**		
https://api.weather.com/v3/wx/globalAirQuality?**postalKey=30339:US**&language=en-US&scale=EPA&format=json&**apiKey=yourAPIKey**		

Valid Parameter Definitions

Parameter Name	**Valid Parameter Value**	**Description**
scale	EPA, HJ6332012, ATMO, UBA, DAQI, NAQI, IMECA, CAQI	Air Quality Scale. A user can select any scale for any point in the world. Governments will usually select a specific scale for data they produce. Currently supported scales indicated here.

Selected Data Scale Code by Government

Country Name	AQI Scale Code
United States	EPA
China	HJ6332012
France	ATMO
Germany	UBA
United Kingdom of Great Britain and Northern Ireland (the)	DAQI
India	NAQI
Mexico	IMECA
Spain	CAQI

Data Elements & Definitions

Field Name	Description	Type	Range	Sample	Nulls Allowed
globalairquality	**Response Section Header: Non Repeating Elements**	**object**			
latitude	Latitude	decimal	N/A	33.65 Note - returned with 2 digits of precision	N
longitude	Longitude	decimal	N/A	-84.43 Note - returned with 2 digits of precision	N
source	Data must be attributed as: "Powered by <source>[year]"	string	Powered by Copernicus Atmosphere Monitoring Service Information [Year]	Powered by Copernicus Atmosphere Monitoring Service Information [2018]	N
disclaimer	Neither the European Commission nor ECMWF is responsible for any use of this information.	string	Neither the European Commission nor ECMWF is responsible for any use of this information.	Neither the European Commission nor ECMWF is responsible for any use of this information.	N
airQualityIndex	Air quality index	decimal	0 to unbounded	61	N
airQualityCategory	Air quality category	string	See Appendix - Category Index Range	Moderate	N
airQualityCategoryIndex	Index summarizing the air quality categories	integer	See Appendix - Category Index Range	2	N
airQualityCategoryIndexColor	Air Quality Category Index Scale to Color	string	See Appendix - Air Quality Category Index Scale to Color	#90D32D	N
primaryPollutant	Indicates primary pollutant	string	O3 = Ozone CO: Carbon Monoxide NO2: Nitrogen Dioxide SO2: Sulfur Dioxide PM2.5: Particulate matter less than 2.5 microns PM10: Particulate matter less than 10 microns	PM2.5	N
expireTimeGmt	Expiration time in UNIX seconds	integer		1369252800	N

messages	**messages**	**object**			
title	Named message type	string	General, Sensitive Groups	General	N
text	Message verbiage	string		Members of sensitive groups may experience health effects. The general public is not likely to be affected.	N
pollutants	**pollutants**	**object**			
name	Pollutant name	string	O3 CO NO2 SO2 PM2.5 PM10	PM2.5	N
phrase	Pollutant description	string	Ozone, Carbon Monoxide, Nitrogen Dioxide, Sulfur Dioxide, Particulate matter less than 2.5 microns, Particulate matter less than 10 microns	Ozone	N
amount	Measure of concentration of pollutant.	decimal		485.25	N
unit	Pollutant Unit	string	ug/m3	µg/m3	N
category	Pollutant Category	string	See Appendix - Category Index Range	Moderate	N
categoryIndex	Pollutant Category Index	decimal	See Appendix - Category Index Range	2	N
index	Pollutant index	decimal	Positive Integer	22	N

JSON Sample

```
// Response Collapsed for Presentation Purposes
{
  "globalairquality": {
    "latitude": 76.6,
    "longitude": 87.5,
    "source": "Powered by Copernicus Atmosphere Monitoring Service",
    "disclaimer": "Neither the European Commission nor ECMWF is responsible for any use of this information",
    "airQualityIndex":101,
    "airQualityCategory": "Unhealthy for Sensitive Groups",
    "airQualityCategoryIndex": 3,
    "airQualityCategoryIndexColor": "039963",
    "primaryPollutant": "PM2.5",
    "pollutants": {
      "NO2": {
        "name": "NO2",
        "phrase": "Nitrogen Dioxide",
        "amount": 41.4,
        "unit": "ug/m3",
        "category": "Good",
        "categoryIndex": 1,
        "index": 21
      },
      "O3": {
        "name": "O3",
        "phrase": "Ozone",
        "amount": 110.0,
        "unit": "ug/m3",
        "category": "Good",
        "categoryIndex": 1,
        "index": 50
      },
      "SO2": {
        "name": "SO2",
        "phrase": "Sulfur Dioxide",
        "amount": 26.2,
        "unit": "ug/m3",
        "category": "Good",
        "categoryIndex": 1,
        "index": 14
      },
      "PM2.5": {
        "name": "PM2.5",
        "phrase": "Particulate matter less than 2.5 microns",
        "amount": 35,
        "unit": "ug/m3",
```

```
            "category": "Unhealthy for Sensitive Groups",
            "categoryIndex": 3,
            "index": 101
        },
        "PM10": {
            "name": "PM10",
            "phrase": "Particulate matter less than 10 microns",
            "amount": 154.5,
            "unit": "ug/m3",
            "category": "Moderate",
            "categoryIndex": 2,
            "index": 100
        },
        "CO": {
            "name": "CO",
            "phrase": "Carbon Monoxide",
            "amount": 8020.3,
            "unit": "ug/m3",
            "category": "Moderate",
            "categoryIndex": 2,
            "index": 76
        }
    },
    "messages": {
        "Sensitive Group": {
            "title": "Sensitive Groups",
            "text": "Reduce prolonged or heavy exertion. It's OK to be active outside, but take more breaks and do less intense activities. Watch for symptoms such as coughing or shortness of breath."
        },
        "General": {
            "title": "General",
            "text": "Members of sensitive groups may experience health effects. The general public is not likely to be affected."
        }
    },
    "expireTimeGmt": 1521748800
  }
}
```

Appendix: Category Index Range

AQI Scale Code	Cat Index 1 range	Cat Index 2 range	Cat Index 3 range	Cat Index 4 range	Cat Index 5 range	Cat Index 6 range	Cat Index 7 range	Cat Index 8 range	Cat Index 9 range	Cat Index 10 range
ATMO	Very Good	Very Good	Good	Good	Moderate	Poor	Poor	Bad	Bad	Very Bad
CAQI	Very Low	Low	Medium	High	Very High					
DAQI	Low	Moderate	High	Very High						
EPA	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous				
HJ6332012	Excellent	Good	Lightly Polluted	Moderately Polluted	Heavily Polluted	Severely Polluted				
IMECA	Good	Regular	Bad	Very Bad	Extremely Bad					
NAQI	Good	Satisfactory	Moderately Polluted	Poor	Very Poor	Severe				
UBA	Very Good	Good	Moderate	Bad	Very Bad					

Appendix: Air Quality Category Index Scale to Color

AQI Scale Code	Cat Index 1 color (best)	Cat Index 2 color	Cat Index 3 color	Cat Index 4 color	Cat Index 5 color	Cat Index 6 color	Cat Index 7 color	Cat Index 8 color	Cat Index 9 color	Cat Index 10 color (worst)
ATMO	84BF75	84BF75	84BF75	84BF75	F29400	F29400	F29400	D82517	D82517	D82517
CAQI	5DBF67	BAD04E	F9C103	FF8B04	A90C00					
DAQI (see next appendix)	9CFF9C	FFFF00	FF6464	CE30FF						
EPA	00E838	FFFF24	FF7200	FF0000	9D3D8C	8D0021				
HJ6332012	039963	FFDE34	FF9125	E50124	6C0F91	8D031D				
IMECA	9ACC00	FFFF00	FF9A00	FF0000	800080					
NAQI	01C966	6AE261	FBFF26	FF9F00	FF0000	F70004				
UBA	00F3E8	00D0A7	F5E645	FF4041	A9002A					

Appendix: DAQI Index Scale to Color

The DAQI scale is unique in that official color is based on the “index” field rather than the “categoryIndex”. In some applications, it may be desirable to show the color mapping based on “index” rather than “category index”. These provide a smoother gradient between magnitudes. The set listed in the previous appendix are simpler estimates.

AQI Scale Code	Index 1 color (best)	Index 2 color	Index 3 color	Index 4 color	Index 5 color	Index 6 color	Index 7 color	Index 8 color	Index 9 color	Index 10 color (worst)
DAQI	9CFF9C	31FF00	31CF00	FFFF00	FFCF00	FF9A00	FF6464	FF0000	990000	CE30FF

Appendix: Country to Air Quality Scale - Full List

Note

- For Countries without their own Air Quality Index Scale specified, EPA Scale is suggested as the default Air Quality Index Scale.

Country Name	Air Quality Index Scale
Afghanistan	EPA
Åland Islands	EPA
Albania	EPA
Algeria	EPA
American Samoa	EPA
Andorra	EPA
Angola	EPA
Anguilla	EPA
Antarctica	EPA
Antigua and Barbuda	EPA
Argentina	EPA
Armenia	EPA
Aruba	EPA
Australia	EPA
Austria	EPA
Azerbaijan	EPA
Bahamas (the)	EPA
Bahrain	EPA
Bangladesh	EPA
Barbados	EPA
Belarus	EPA
Belgium	EPA

Belize	EPA
Benin	EPA
Bermuda	EPA
Bhutan	EPA
Bolivia (Plurinational State of)	EPA
Bonaire, Sint Eustatius and Saba	EPA
Bosnia and Herzegovina	EPA
Botswana	EPA
Bouvet Island	EPA
Brazil	EPA
British Indian Ocean Territory (the)	EPA
Brunei Darussalam	EPA
Bulgaria	EPA
Burkina Faso	EPA
Burundi	EPA
Cabo Verde	EPA
Cambodia	EPA
Cameroon	EPA
Canada	EPA
Cayman Islands (the)	EPA
Central African Republic (the)	EPA
Chad	EPA
Chile	EPA
China	HJ6332012
Christmas Island	EPA
Cocos (Keeling) Islands (the)	EPA
Colombia	EPA
Comoros (the)	EPA
Congo (the Democratic Republic of the)	EPA
Congo (the)	EPA
Cook Islands (the)	EPA
Costa Rica	EPA
Côte d'Ivoire	EPA
Croatia	EPA

Cuba	EPA
Curaçao	EPA
Cyprus	EPA
Czechia	EPA
Denmark	EPA
Djibouti	EPA
Dominica	EPA
Dominican Republic (the)	EPA
Ecuador	EPA
Egypt	EPA
El Salvador	EPA
Equatorial Guinea	EPA
Eritrea	EPA
Estonia	EPA
Ethiopia	EPA
Falkland Islands (the) [Malvinas]	EPA
Faroe Islands (the)	EPA
Fiji	EPA
Finland	EPA
France	ATMO
French Guiana	EPA
French Polynesia	EPA
French Southern Territories (the)	EPA
Gabon	EPA
Gambia (the)	EPA
Georgia	EPA
Germany	UBA
Ghana	EPA
Gibraltar	EPA
Greece	EPA
Greenland	EPA
Grenada	EPA
Guadeloupe	EPA
Guam	EPA

Guatemala	EPA
Guernsey	EPA
Guinea	EPA
Guinea-Bissau	EPA
Guyana	EPA
Haiti	EPA
Heard Island and McDonald Islands	EPA
Holy See (the)	EPA
Honduras	EPA
Hong Kong	EPA
Hungary	EPA
Iceland	EPA
India	NAQI
Indonesia	EPA
Iran (Islamic Republic of)	EPA
Iraq	EPA
Ireland	EPA
Isle of Man	EPA
Israel	EPA
Italy	EPA
Jamaica	EPA
Japan	EPA
Jersey	EPA
Jordan	EPA
Kazakhstan	EPA
Kenya	EPA
Kiribati	EPA
Korea (the Democratic People's Republic of)	EPA
Korea (the Republic of)	EPA
Kuwait	EPA
Kyrgyzstan	EPA
Lao People's Democratic Republic (the)	EPA
Latvia	EPA
Lebanon	EPA

Lesotho	EPA
Liberia	EPA
Libya	EPA
Liechtenstein	EPA
Lithuania	EPA
Luxembourg	EPA
Macao	EPA
Macedonia (the former Yugoslav Republic of)	EPA
Madagascar	EPA
Malawi	EPA
Malaysia	EPA
Maldives	EPA
Mali	EPA
Malta	EPA
Marshall Islands (the)	EPA
Martinique	EPA
Mauritania	EPA
Mauritius	EPA
Mayotte	EPA
Mexico	IMECA
Micronesia (Federated States of)	EPA
Moldova (the Republic of)	EPA
Monaco	EPA
Mongolia	EPA
Montenegro	EPA
Montserrat	EPA
Morocco	EPA
Mozambique	EPA
Myanmar	EPA
Namibia	EPA
Nauru	EPA
Nepal	EPA
Netherlands (the)	EPA
New Caledonia	EPA

New Zealand	EPA
Nicaragua	EPA
Niger (the)	EPA
Nigeria	EPA
Niue	EPA
Norfolk Island	EPA
Northern Mariana Islands (the)	EPA
Norway	EPA
Oman	EPA
Pakistan	EPA
Palau	EPA
Panama	EPA
Papua New Guinea	EPA
Paraguay	EPA
Peru	EPA
Philippines (the)	EPA
Pitcairn	EPA
Poland	EPA
Portugal	EPA
Puerto Rico	EPA
Qatar	EPA
Réunion	EPA
Romania	EPA
Russian Federation (the)	EPA
Rwanda	EPA
Saint Barthélemy	EPA
Saint Helena, Ascension and Tristan da Cunha	EPA
Saint Kitts and Nevis	EPA
Saint Lucia	EPA
Saint Martin (French part)	EPA
Saint Pierre and Miquelon	EPA
Saint Vincent and the Grenadines	EPA
Samoa	EPA
San Marino	EPA

Sao Tome and Principe	EPA
Saudi Arabia	EPA
Senegal	EPA
Serbia	EPA
Seychelles	EPA
Sierra Leone	EPA
Singapore	EPA
Sint Maarten (Dutch part)	EPA
Slovakia	EPA
Slovenia	EPA
Solomon Islands	EPA
Somalia	EPA
South Africa	EPA
South Georgia and the South Sandwich Islands	EPA
South Sudan	EPA
Spain	CAQI
Sri Lanka	EPA
Sudan (the)	EPA
Suriname	EPA
Svalbard and Jan Mayen	EPA
Swaziland	EPA
Sweden	EPA
Switzerland	EPA
Syrian Arab Republic	EPA
Taiwan (Province of China)	EPA
Tajikistan	EPA
Tanzania, United Republic of	EPA
Thailand	EPA
Timor-Leste	EPA
Togo	EPA
Tokelau	EPA
Tonga	EPA
Trinidad and Tobago	EPA
Tunisia	EPA

Turkey	EPA
Turkmenistan	EPA
Turks and Caicos Islands (the)	EPA
Tuvalu	EPA
Uganda	EPA
Ukraine	EPA
United Arab Emirates (the)	EPA
United Kingdom of Great Britain and Northern Ireland (the)	DAQI
United States Minor Outlying Islands (the)	EPA
United States of America (the)	EPA
Uruguay	EPA
Uzbekistan	EPA
Vanuatu	EPA
Venezuela (Bolivarian Republic of)	EPA
Viet Nam	EPA
Virgin Islands (British)	EPA
Virgin Islands (U.S.)	EPA
Wallis and Futuna	EPA
Western Sahara*	EPA
Yemen	EPA
Zambia	EPA
Zimbabwe	EPA

Weather Company Data - Enhanced Forecast | Nowcast - v1

Domain Portfolio: Forecast | Domain: Short-Range Forecast | API Name: Nowcast - v1

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The short range Nowcast Forecast API is sourced from the TWC Forecast system. This API provides a text summary of the weather forecast for the next 6 hour period for today. Please refer to the Data Elements section later in this document for more details.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- narrative_32char
- narrative_128char
- narrative_256char
- narrative_512char

Unit of Measure Requirement

The unit of measure for the response. These fields are only translated in en_US, en_GB and en_IN. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Atomic API URL Examples:	**Aggregate Product Name**	v2fcstnowcast
Request by Geocode (Latitude & Longitude): Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey**		
https://api.weather.com/v1/geocode/34.063/-84.217/forecast/nowcast.json?language=en-US&units=e&apiKey=yourApiKey		
Request by Postal Code: Required Parameters: language, format, units, geocode, postal code apiKey=**yourApiKey** The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code>		
https://api.weather.com/v1/location/30075:4:US/forecast/nowcast.json?language=en-US&units=e&apiKey=yourApiKey		

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
class	Data identifier	string		fod_short_range_nowcast	N
expire_time_gmt	Expiration time in UNIX seconds	epoch		1369252800	N
fcst_valid	Time forecast is valid, at the top of current UTC hour, or at the bottom of current UTC hour if minute > 30	epoch		1369252800	N
fcst_valid_local	Time forecast is valid in local apparent time,, at the top of current UTC hour, or at the bottom of current UTC hour if minute > 30.	ISO	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
icon_code	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	Integer		16	N
narrative_128char	Short term forecast summarized to 128-character limitation. Only available in en_US, en_GB and en_IN	String		Mostly cloudy. Winds NE at 5 to 10 mph.	Y
narrative_256char	Short term forecast summarized to 256-character limitation. Only available in en_US, en_GB and en_IN	String		Mostly cloudy. Temperatures steady in the low teens. Winds NE at 5 to 10 mph.	Y
narrative_32char	Short term forecast summarized to 32-character limitation. Only available in en_US, en_GB and en_IN	String		Mostly cloudy.	Y
narrative_512char	Full short term forecast of up to 512 characters. Only available in en_US, en_GB and en_IN	String		Occasional snow showers with a period of steadier snow arriving around 10am. Snow will end around late morning. Mostly cloudy with temperatures warming into the low to middle 20s. Winds N at 10 to 15 mph. Chance of snow 40%. No significant snow accumulations through 1:30pm.	N
peak_severity	A code denoting how impactful is the forecasted weather for this forecast period. 0 = no threat, 6 = dangerous / life threatening	Integer	0 to 6	3	N
peak_wind	A code denoting the peak wind found within the forecast period.	Integer	0 to 200	32	N
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) for the forecast period.	Decimal	0.00 to 99.99	1.28	N

JSON Sample


```
{
   "metadata": {
      "language": "en-US",
      "transaction_id": "1473206764628:319273988",
      "version": "1",
      "latitude": 34.06,
      "longitude": -84.21,
      "units": "e",
      "expire_time_gmt": 1473207206,
      "status_code": 200
   },
   "forecast": {
      "class": "fod_short_range_nowcast",
      "expire_time_gmt": 1473207206,
      "fcst_valid": 1473206400,
      "fcst_valid_local": "2016-09-06T20:00:00-0400",
      "icon_code": 31,
      "qpf": 0,
      "peak_wind": 2,
      "peak_severity": 1,
      "narrative_512char": "Clear. Temperatures falling into the low 70s. Winds light and variable.",
      "narrative_256char": "Clear. Temperatures falling into the low 70s. Winds light and variable.",
      "narrative_128char": "Clear. Winds light and variable.",
      "narrative_32char": "Clear."
   }
}
```

Lifestyle Indices - Static Electricity Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Static Electricity Index provides indices indicating the potential for static electricity based on weather conditions.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Static Electricity Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/static/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/static/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxStaticDaypart3
https://api.weather.com/v2/indices/static/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxStaticDaypart5
https://api.weather.com/v2/indices/static/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxStaticDaypart7
https://api.weather.com/v2/indices/static/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxStaticDaypart10
https://api.weather.com/v2/indices/static/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxStaticDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/static/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/static/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxStaticDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Static Electricity Index	staticGuardCategory	Descriptive text of Static Guard Index	[string]		Low Static Condition	N	Display As Provided
	staticGuardIndex	Index indicating the potential for static electricity based on weather conditions. 1=Low Static Condition, 2=Moderate Static Condition, 3=High Static Condition	[integer]	1-3	1	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"staticIndex12hour": {          {//JSON payload},
"fcstValid": [],                {//JSON payload},
"fcstValidLocal": [],           {//JSON payload},
"dayInd": [],                   {//JSON payload},
"num": [],                      {//JSON payload},
"daypartName": [],              {//JSON payload},
"staticGuardIndex": [],         {//JSON payload},
"staticGuardCategory": []       {//JSON payload},
}
}
```

U.S. Pollen Observations
API User Document
Version 1.0

Table of Contents

- Audience
- Geography
- Background Technology
- Response Format
- Icon Codes, Weather Phrases and Images
- Translations
  - Fields Translated
- Expiration
- URL Construction
- Overview
- Understanding U.S. Pollen Observations
- URL Format
- Data Elements
- Response Field Maintenance
- Formatted Response Samples
  - Extensible Markup Language (XML)
  - Example
  - JavaScript Object Notation (JSON)
  - Example
- Display Examples
- Appendix
  - Pollen Types
  - Pollen Index Descriptions
  - Station Comments
  - Tree Names

Audience
This API is intended for web and mobile platforms.

Geography
U.S.A. Only

Background Technology
This API is a REST-based web service.

Response Format
This TWC API can return either JSON or XML formatted responses.

Icon Codes, Weather Phrases and Images
For the mapping of icon codes, weather phrases and images please refer to the Icon Code, Weather Phrases and Images document.

Translations
This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

Fields Translated

- Tree names
- Station Comments
- Pollen Type
- Pollen Description

HTTP Headers and Data Lifetime - Caching and Expiration
For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Expiration
The response provides a data element expire_time_gmt. The value in this data element should be used to expire and remove a record from your system.

URL Construction
Please refer to the TWC API Common Usage document for a tutorial on URL construction and URL references.

Overview

The current US pollen observation content for a valid TWC location in the supported region or latitude/longitude. The US Pollen Observation returns the pollen observation content for a valid TWC located in the supported region or latitude/longitude coordinate. The API will return the index and index description for three pollen types (tree, weed, grass) and for mold. The API supports two languages – English and Spanish for the US.

Understanding U.S. Pollen Observations

Implementing the US Pollen Observations API requires your applications to perform basic processing in order to properly ingest this data.

U.S. Pollen Observations Composition

Pollen data provided through this API is sourced from trusted third-party organization that collects data from allergist's offices on weekdays, Monday – Friday, except holidays. There are four segments of the data feed. The first contains the metadata, which includes the specified language parameter in the request URL. The US Pollen Observation content is presented in either English by default or translated into Spanish when the Spanish language parameter is used. The remaining data segments contain information on the location, reporting date/time and station, the specific tree species, and index for tree pollen, grass pollen, weed pollen, or mold count.

URL Format

Atomic API URL Examples: Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.	
Request by Geocode (Latitude & Longitude): https://api.weather.com/v1/**geocode/34.063/-84.217**/observations/pollen.**<json or xml>?language=en-US**&**apiKey=yourApiKey**	**Required Parameters:** geocode, language, format
https://api.weather.com/v1/geocode/34.063/-84.217/**observations/pollen**.json?language=en-US&apiKey=yourApiKey	
Request by Postal Code: The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code> https://api.weather.com/v1/**location/30075:4:US**/observations/pollen.**<json or xml>?language=en-US**&**apiKey=yourApiKey**	**Required Parameters:** postal code:4:country code, language, format
https://api.weather.com/v1/location/30075:4:US/**observations/pollen**.json?language=en-US&apiKey=yourApiKey	

Data Elements

Data Element Rule Definitions

Each data element has three rules associated with it as defined below.

This Rule …	… does this …	… and answers this …
Usage Rule	Determines whether a data element is required or optional. If it is optional, determines whether or not you can substitute it with a different data element.	Must I use this data element or can I replace it with a different one?
Processing Rule	Defines how to process a data element so the results are correct.	If I use this data element, how do I process it?
Display Rule	Defines the proper display format for a data element.	How do I display this data element?

Data Element Descriptions

Outbound JSON/XML	Description	Type	Length	Range	Null	Sample	Usage	Processing	Display
Metadata									
version	API version number	String	4		N	1	required	none	do not display
transaction_id	Generated transaction id for the API call	String	varies		N	7506556217027201134	required	none	do not display
expire_time_gmt	Data expiration date/ time in UNIX seconds	Long	10	unlimited	N	1373914800	required	none	do not display
US Pollen Observations									
class	type of data	String	12	pollenobs	N	pollenobs	required	none	do not display
loc_id	pollen station id	String	3	any valid pollen station	N	ATL	required	none	do not display
loc_nm	city name	String	45		N	Atlanta	required	none	display as provided
loc_st	state	String	2		N	GA	required	none	display as provided
rpt_dt	the date and time the pollen observation was reported	Date	24	YYYY-MM-DD'T'HH:MM:SSZ	N	2014-04-08T15:00:00Z	required	none	do not display
process_time_gmt	processed date/time in UNIX seconds	Long	10	unlimited	N	1367892140	required	none	do not display
Tree Name – occurs 3 times									
tree_nm	the name of the tree species with the highest observed pollen count	String	10	see Tree Names	N	Cedar	optional	none	display as provided

total_pollen_cnt	the total observed pollen count of the specified plants being measured at the location	Integer	5	grains per cubic meter	Y	551 grains per cubic meter	optional	none	display as provided
stn_cmnt_cd	the pollen station comment code	String	1	A - No Report B - Equipment Failure C - Reports only during weed pollen season D - Reports Suspended E - Rain/Inclement Weather F - Does not report year round G - Report valid more than one day H- Operating Normally	Y	H	optional	none	do not display
stn_cmnt	the reporting status of the pollen stati	String	50	see Station Comments	Y	operating normally	optional	none	display as provided
Pollen Observation – Occurs 4 times – Tree, Grass, Weed and Mold									
pollen_type	type of pollen	String	16	see Pollen Types	N	Tree	required	none	display as provided
pollen_idx	pollen index value	String	1	0 to 4 or 9	N	1	required	none	display as provided
pollen_desc	pollen index description	String	12	see Pollen Index Descriptions	N	1	required	none	display as provided

Response Field Maintenance

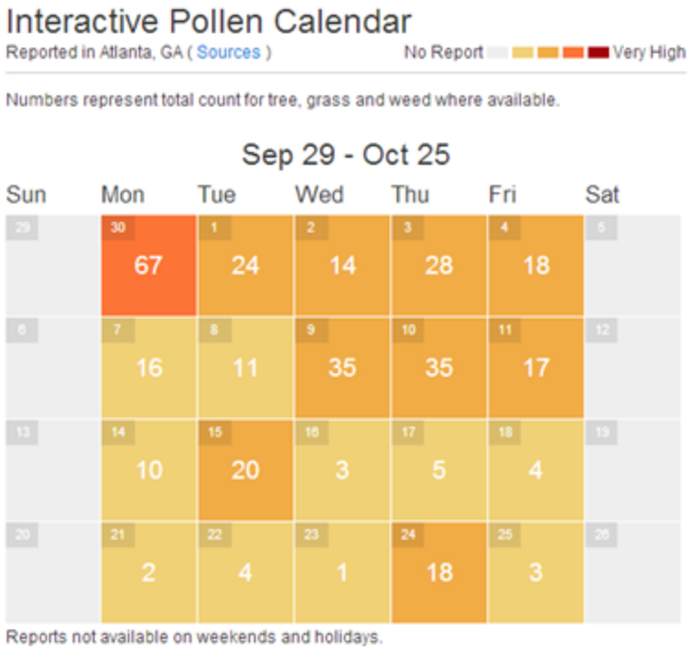
TWC strives to minimize the impact of changes in our weather content to your applications. TWC will not remove, rename or change the data type (int, string) of any data fields in the API response. However, TWC may add new data fields without notice.

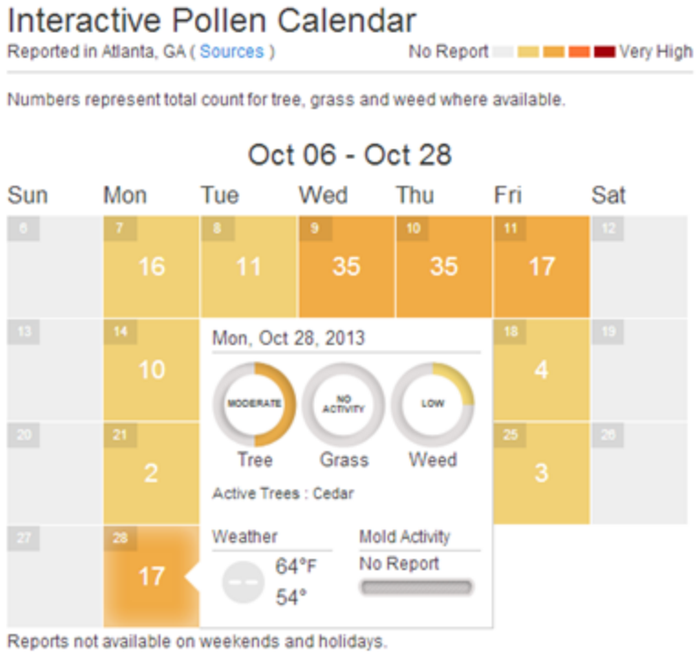
Formatted Response Samples

Extensible Markup Language (XML) Example	JavaScript Object Notation (JSON) Example
<response> <script id="script_privacy"/> <metadata> <version>1</version> <transaction_id>3024609351603579883</transaction_id> <expire_time_gmt>1397271306</expire_time_gmt> </metadata> <pollenobservations> <class>pollenobs</class> <loc_id>ATL</loc_id> <loc_nm>Atlanta</loc_nm> <loc_st>GA</loc_st> <rpt_dt>2014-04-08T15:00:00Z</rpt_dt> <process_time_gmt>1396983306</process_time_gmt> <treenames> <tree_nm>Oak</tree_nm> <tree_nm>Birch</tree_nm> <tree_nm>Sweet Gum</tree_nm> </treenames> <total_pollen_cnt>1156</total_pollen_cnt> <stn_cmnt_cd>H</stn_cmnt_cd> <stn_cmnt>Operating Normally</stn_cmnt> <pollenobservation> <pollen_type>Tree</pollen_type> <pollen_idx>4</pollen_idx> <pollen_desc>Very High</pollen_desc> </pollenobservation> <pollenobservation> <pollen_type>Grass</pollen_type> <pollen_idx>0</pollen_idx> <pollen_desc>None</pollen_desc> </pollenobservation> <pollenobservation> <pollen_type>Weed</pollen_type> <pollen_idx>0</pollen_idx> <pollen_desc>None</pollen_desc> </pollenobservation> <pollenobservation> <pollen_type>Mold</pollen_type> <pollen_idx>9</pollen_idx> <pollen_desc>No Data</pollen_desc>	{"metadata":{ "language": "en-US", "transaction_id": "1547239301440:523427864", "version": "1", "latitude": 32.73, "longitude": -117.16, "expire_time_gmt": 1547515441, "status_code": 200 }, "pollenobservations":[{"class":"pollenobs", "loc_id":"ATL", "loc_nm":"Atlanta", "loc_st":"GA", "rpt_dt":"2014-04-08T15:00:00Z", "process_time_gmt":1396983306, "treenames":[{"tree_nm":"Oak"}, {"tree_nm":"Birch"}, {"tree_nm":"Sweet Gum"}], "total_pollen_cnt":1156, "stn_cmnt_cd":"H", "stn_cmnt":"Operating Normally", "pollenobservation":[{"pollen_type":"Tree","pollen_idx":"4","pollen_desc":"Very High"}, {"pollen_type":"Grass","pollen_idx":"0","pollen_desc":"None"}, {"pollen_type":"Weed","pollen_idx":"0","pollen_desc":"None"}, {"pollen_type":"Mold","pollen_idx":"9","pollen_desc":"No Data"}]}]}

</pollenobservation>	

Display Examples


Interactive Pollen Calendar
Reported in Atlanta, GA (Sources)
No Report Very High
Numbers represent total count for tree, grass and weed where available.
Sep 29 - Oct 25
Sun Mon Tue Wed Thu Fri Sat
29 30 67 1 24 2 14 3 28 4 18 5
6 7 16 8 11 9 35 10 35 11 17 12
13 14 10 15 20 16 3 17 5 18 4 19
20 21 2 22 4 23 1 24 18 25 3 26
Reports not available on weekends and holidays.


Interactive Pollen Calendar
Reported in Atlanta, GA (Sources)
No Report Very High
Numbers represent total count for tree, grass and weed where available.
Oct 06 - Oct 28
Sun Mon Tue Wed Thu Fri Sat
6 7 16 8 11 9 35 10 35 11 17 12
13 14 10 18 4 19
20 21 2 25 3 26
27 28 17
Mon, Oct 28, 2013
MODERATE NO ACTIVITY LOW
Tree Grass Weed
Active Trees : Cedar
Weather
64°F
54°
Mold Activity
No Report
Reports not available on weekends and holidays.

Appendix

Pollen Types

English	Spanish
Tree	Árbol
Grass	Pasto
Weed	Hierbas
Mold	Moho

Pollen Index Descriptions

Index	English	Spanish
0	None	Ninguno
1	Low	Bajo
2	Moderate	Moderado
3	High	Elevado
4	Very High	Fuerte
9	No Data	Sin datos

Station Comments

English	Spanish
No Report	Sin informe
Equipment Failure	Fallo del equipo
Reports only during weed pollen season	Informes solo durante temporada de polen
Reports Suspended	Informes suspendidos
Rain/Inclement Weather	Lluvia/Tiempo severo
Does not report year round	No informa el año entero
Report valid more than one day	Informe valido por mas de un día.
Operating Normally	Operando normalme

Tree Names

English	Spanish
Alder	Aliso
Ash	Fresno
Aspen	Álamo temblón
Birch	Abedul
Cedar	Cedro
Cottonwood	Álamo de Virginia
Cypress	Ciprés
Dogwood	Cornejo
Elm	Olmo
Hickory	Nogal
Fir	Abeto
Juniper	Enebro
Maple	Árbol de arce
Oak	Roble
Olive	Olivo
Pine	Pino
Poplar	Álamo
Redwood	Secuoya
Sweet Gum	Liquidámbar
Sycamore	Sicomoro
Plum	Ciruelo
Mulberry	Morera
Beech	Haya
Willow	Sauce
Pecan	Nogal de pecanas
No Report	Sin informe

Lifestyle Indices - UV Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The UV Index provides indices of the intensity of the solar radiation level and risk of skin damage due to exposure.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
UV Index - Fifteen Minute API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/uv/fifteenminute?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/fifteenminute?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVFifteenMinute
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/uv/fifteenminute?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/fifteenminute?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxUVFifteenMinute
UV Index - Current Conditions API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/uv/current?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/current?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVcurrent
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/uv/current?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/current?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxUVcurrent
UV Index - Daypart API	

Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/uv/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVDaypart3
https://api.weather.com/v2/indices/uv/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVDaypart5
https://api.weather.com/v2/indices/uv/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVDaypart7
https://api.weather.com/v2/indices/uv/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVDaypart10
https://api.weather.com/v2/indices/uv/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/uv/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxUVDaypart3
UV Index - Hourly API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/uv/hourly/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/hourly/24hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly24
https://api.weather.com/v2/indices/uv/hourly/48hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly48
https://api.weather.com/v2/indices/uv/hourly/72hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly72
https://api.weather.com/v2/indices/uv/hourly/120hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly120
https://api.weather.com/v2/indices/uv/hourly/240hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly240
https://api.weather.com/v2/indices/uv/hourly/360hour?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxUVhourly360
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/uv/hourly/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/uv/hourly/24hour?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxUVhourly24

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls Allowed	Usage
Repeating Elements: Unique to Current							
	obsTime	Time observation is valid	[epoch]		1369252800	N	Display As Provided

	obsTimeLocal	Time observation is valid ... . in local, but at top of next UTC hour	[ISO]		2013-05-22T20:00:00-0400	N	Display As Provided
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
Unique to Hourly	dow	Forecast valid day of week	[string]		Wednesday	N	Display As Provided
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0 Short-Range - Sequential hour number, where 1 = first available 15-minute timestep of forecast, usually <= 15 minutes from “now” Long - Range - Sequential hour number, where 1 = first available hour of forecast, usually <= 1hr from “now”	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
Unique to Daypart	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
UV Index	uvIndex	TWC-created UV index Current 12 Hour - 12hr daypart maximum UV Index. N/A (null) at NIGHT 1 Hour - Short-Range & Long Range Hourly UV Index 15 Minute - Short-Range UV Index Value of 0 used when nighttime. During daytime, value will be between 1-11 1-2=Low, 3-5=Moderate, 6-7=High, 8-10= Very High, 11=Extreme	[integer]	0-11	6	N	Display As Provided
	uvWarning	TWC-created UV warning based on UV index of XX or greater	bool		1	N	Display As Provided
	uvDesc	Descriptive text of UV Index 0-2=Low, 3-5=Moderate, 6-7=High, 8-10= Very High, 11=Extreme	[string]		Low	N	Display As Provided
	uvIndexRaw	12 Hour - 12hr daypart untruncated maximum UV Index. N/A (null) at NIGHT 1 Hour - Short-Range & Long Range Hourly Untruncated UV Index 15 Minute - Short-Range Untruncated UV Index	[float]	0-16	2.13	N	Display As Provided

JSON Sample

JSON Sample - Current Conditions


```
{
"metadata": {},
"uvIndexCurrent": {
"obsTime": 1458921900,
"obsTimeLocal": "2016-03-25T12:05:00-0400",
"dow": "Friday",
"dayInd": "D",
"uvIndex": 4,
"uvDesc": "Moderate",
"uvWarning": 0
}
}
```


JSON Sample - 15 Minute


```
{
"metadata": {},
"uvIndex15minute": {          {//JSON payload},
"fcstValid": [],              {//JSON payload},
"fcstValidLocal": [],         {//JSON payload},
"num": [],                    {//JSON payload},
"dayOfWeek": [],              {//JSON payload},
"dayInd": [],                 {//JSON payload},
"uvIndex": [],                {//JSON payload},
"uvDesc": [],                 {//JSON payload},
"uvWarning": [],              {//JSON payload},
"uvIndexRaw": []              {//JSON payload},
}
}
```


JSON Sample - Hourly


```
{
"metadata": {},
"uvIndex1hour": {     {//JSON payload},
"fcstValid": [],      {//JSON payload},
"fcstValidLocal": [], {//JSON payload},
"num": [],            {//JSON payload},
"dow": [],            {//JSON payload},
"dayInd": [],         {//JSON payload},
"uvIndex": [],        {//JSON payload},
"uvDesc": [],         {//JSON payload},
"uvWarning": [],      {//JSON payload},
"uvIndexRaw": []      {//JSON payload},
}
}
```


JSON Sample - Daypart


```
{
"metadata": {},
"uvIndex12hour": {          {//JSON payload},
"fcstValid": [],            {//JSON payload},
"fcstValidLocal": [],       {//JSON payload},
"dayInd": [],               {//JSON payload},
"num": [],                  {//JSON payload},
"daypartName": [],          {//JSON payload},
"uvIndex": [],              {//JSON payload},
"uvDesc": [],               {//JSON payload},
"uvWarning": [],            {//JSON payload},
"uvIndexRaw": []            {//JSON payload},
}
}
```

Weather Company Data | PWS Recent History - 1 Day - Rapid History - v2

Domain Portfolio: Observations | Domain: Historical | API Name: PWS Recent History - 1 Day - Rapid History - v2

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

Personal Weather Station (PWS) Rapid Historical Observations returns the daily observations records in rapid frequency as frequent as every 5 minutes. Actual frequency of reports ranges and is dependent on how frequently an individual Personal Weather Station (PWS) reports data.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Unit of Measure Requirement

The unit of measure for the response. The following values are supported:

- e = English units
- m = Metric units
- h = Hybrid units (UK)

URL Construction

Request by Geocode (Latitude & Longitude): Required Parameters: format, units, stationId, apiKey | Optional Parameter: numericPrecision
https://api.weather.com/v2/pws/observations/all/1day?stationId=KMAHANOV10&format=json&units=e&apiKey=yourApiKey

Valid Parameter Definitions

Parameter Name	Valid Parameter Value	Description
numericPrecision	decimal	Optional parameter. Set to 'decimal' to ensure data is returned in decimal format when needed. Will return integers if this value is not used.

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
epoch	Time in UNIX seconds	epoch		1369252800	Y
humidityAvg	Average Humidity of the period	integer/decimal		32	Y
humidityHigh	Highest Humidity of the period	integer/decimal		32	Y
humidityLow	Lowest Humidity of the period	integer/decimal		32	Y
lat	Latitude of PWS	decimal	Any valid latitude value. -90 to 90	29.8972	Y
lon	Longitude of PWS	decimal	Any valid longitude value. -180 to 180	-97.9362	Y
obsTimeLocal	Time observation is valid in local apparent time by timezone	ISO	YYYYY-MM-dd HH:mm:ss	2016-09-27 00:59:39	Y
obsTimeUtc	GMT(UTC) time	ISO	ISO 8601 - yyyy-MM-dd'T'HH:mm:ssZZ	2016-09-27T06:59:39Z	Y

solarRadiationHigh	Highest Solar Radiation of the period	integer/decimal		947	Y
stationID	ID as registered by wunderground.com	string		KAZTUCSO539	N
tz	Time zone of PWS	string		America/Chicago	Y
uvHigh	Highest UV Index of the period	decimal		2	Y
winddirAvg	Wind direction average of the period	integer/decimal		170	Y
imperial metric metric_si uk_hybrid	Object containing fields that use a defined unit of measure. The object label is dependent on the units parameter assigned in the request. "imperial", "metric", "metric_si", "uk_hybrid"	object		imperial: {.....}	N
dewptAvg	Average dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptHigh	Maximum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
dewptLow	Minimum dew point of the period	integer/decimal	-80 to 100 (°F) or -62 to 37 (°C)	43.0	Y
heatindexAvg	Heat index average of the period	integer/decimal		68.2	Y
heatindexHigh	Heat index high temperature of the period	integer/decimal		71.8	Y
heatindexLow	Heat index low temperature of the period	integer/decimal		61.7	Y
precipRate	Rate of precipitation - instantaneous precipitation rate. How much rain would fall if the precipitation intensity did not change for one hour	integer/decimal		0.03	Y
precipTotal	Accumulated Rain for the day in defined unit of measure	integer/decimal		0.03	Y
pressureMax	Highest Barometric pressure in defined unit of measure of the period	integer/decimal		30.12	Y
pressureMin	Lowest Barometric pressure in defined unit of measure of the period	integer/decimal		0.01	Y
pressureTrend	Pressure tendency over the preceding period	integer/decimal		28.09	Y
qcStatus	Quality control indicator: -1: No quality control check performed 0: This observation was marked as possibly incorrect by our quality control algorithm 1: This observation passed quality control checks	integer	-1 to 1	1	N
tempAvg	Temperature average of the period	integer/decimal		72.7	Y
tempHigh	High Temperature of the period	integer/decimal		87.3	Y
tempLow	Low Temperature of the period	integer/decimal		63.7	Y
windchillAvg	Windchill average of the period	integer/decimal		32	Y
windchillHigh	High Windchill temperature of the period	integer/decimal		45	Y
windchillLow	Low Windchill temperature of the period	integer/decimal		35	Y
windgustAvg	Wind gust average of the period	integer/decimal		54	Y
windgustHigh	Highest Wind gust of the period	integer/decimal		56	Y
windgustLow	Lowest Wind gust of the period	integer/decimal		43	Y
windspeedAvg	Wind speed average of the period	integer/decimal		3	Y
windspeedHigh	Highest Wind speed of the period	integer/decimal		5	Y

windspeedLow	Lowest Wind speed of the period	integer/decimal		1	Y

JSON Sample


```
{
  "observations": [
    {
      "stationID": "KMAHANOV10",
      "tz": "America/New_York",
      "obsTimeUtc": "2016-10-03T04:04:57Z",
      "obsTimeLocal": "2016-10-03 00:04:57",
      "epoch": 1475467497,
      "lat": 42.09263229,
      "lon": -70.86485291,
      "solarRadiationHigh": null,
      "uvHigh": null,
      "winddirAvg": 0,
      "humidityHigh": 100,
      "humidityLow": 100,
      "humidityAvg": 100,
      "qcStatus": -1,
      "metric": {
        "tempHigh": 12,
        "tempLow": 12,
        "tempAvg": 12,
        "windspeedHigh": 0,
        "windspeedLow": 0,
        "windspeedAvg": 0,
        "windgustHigh": 0,
        "windgustLow": 0,
        "windgustAvg": 0,
        "dewptHigh": 12,
        "dewptLow": 12,
        "dewptAvg": 12,
        "windchillHigh": null,
        "windchillLow": null,
        "windchillAvg": null,
        "heatindexHigh": 12,
        "heatindexLow": 12,
        "heatindexAvg": 12,
        "pressureMax": 1015.58,
        "pressureMin": 1015.58,
        "pressureTrend": 0,
        "precipRate": 0,
        "precipTotal": 0
```

```
    }
   },

  // Response Collapsed for Presentation Purposes
  ]
}
```

Weather Imagery - Image TileServer - v3.0

Domain Portfolio: Weather Imagery | Domain: Raster-Tile | Usage Classification: Standard | API Name: Image TileServer - v3.0

Geography: Regionally Mixed

Attribution Required: Yes / Conditional

Attribution Requirements:
Radar Layer - Australia: Requires Attribution: “Australian Bureau of Meteorology” brand/trademark logo and Weblink. www.bom.gov.au
Canada: Requires Attribution: “Environment and Climate Change Canada”
The terms and conditions are specified here:
http://dd.meteo.gc.ca/doc/LICENCE_GENERAL.txt

Overview

The Image Tile Server API features a comprehensive set of tile-based products utilizing data from including radar, satellite, current conditions, and forecast information based on complex algorithms developed from TWC observation systems. It provides the ability to request tiles of varying resolution. The Image Tile Server product provides access to our most popular mapping layers pre-rendered with appropriate palettes, ready to be applied to your base map. Layers are served as precut 256x256 png image files for interactive maps and other data visualization, addressed according to a XYZ tile address schema.

The process of identifying available layer data and corresponding layer tiles requires a 3-step process.

1. Get Inventory Series List which returns the valid timeslice and metadata for each tile layer.
2. Use the appropriate valid timeslice (ts & fts) as input to the timeslice parameters, and base map tile address as input into the XYZ parameter of the layer tile request.
3. Get specified Layer Tiles using the data from the Inventory Series response as input into the ‘ts’ and ‘fts’ parameters.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Update Frequency

In the Inventory Series each available layer includes a time slice (ts); The time slice (ts) is an Epoch formatted time stamp. This timestamp is used as input into the atomic layer api request for the available layers (with the given timestamp). Each layer timestamp is updated on a frequency dependent on the layer type (Observation, Forecast). A new Inventory Series request should be made at correlating intervals to the Layer type used in the client application.

For example: if the client application is using both Observation AND Forecast layers, then the Inventory Series API should be made in at least 5 minute intervals, however if only Forecast layers are used, then an updated Inventory Series could be extended out to 30 minute intervals.

Layer Type	Update Frequency
Observation Layers	5 Minutes
Forecast Layers	30 Minutes
Composite Radar & Satellite Layers	5 Minutes

URL Construction

Atomic API URL Examples:
Inventory Series List: Required Parameters: apiKey **Optional Parameters:** cb, filter https://api.weather.com/v3/TileServer/series/productSet/PPAcore?apiKey=**yourApiKey**
https://api.weather.com/v3/TileServer/**series/productSet/PPAcore**?apiKey=**yourApiKey** Optional **cb** parameter can be added (optional) if a jsonp callback is required. Get Inventory Series List with optional cb parameter: https://api.weather.com/v3/TileServer/**series/productSet/PPAcore?cb=padding_wrapper**&apiKey=**yourApiKey** Optional **filter** parameter can be added (optional) to filter results on a specific product: https://api.weather.com/v3/TileServer/**series/productSet/PPAcore?filter=satrad**&apiKey=**yourApiKey**
Current Conditions Layer: Required Parameters: ts, X:Y:Z, apiKey https://api.weather.com/v3/TileServer/tile/<**layer_name**>?ts=<**ts**>&xyz=<**X:Y:Z**>&apiKey=**yourApiKey**
https://api.weather.com/v3/TileServer/tile/**radar**?ts=**1437426000**&xyz=**0:0:1**&apiKey=**yourApiKey**
Forecast Layer: Required Parameters: ts, fts, X:Y:Z, apiKey https://api.weather.com/v3/TileServer/tile/<**layer_name**>?ts=<**ts**>&fts=<**fts**>&xyz=<**X:Y:Z**>&apiKey=**yourApiKey**
https://api.weather.com/v3/TileServer/tile/**radarFcst**?ts=**1428948600**&fts=**1428949000**&xyz=**0:0:1**&apiKey=**yourApiKey**

Layer Name	URL Example
Inventory Series	https://api.weather.com/v3/TileServer/**series/productSet/PPAcore**?apiKey=**yourApiKey**
Current Conditions Layers	
Current Conditions Layer - Dewpoint	https://api.weather.com/v3/TileServer/tile/**dewpoint**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Feels Like	https://api.weather.com/v3/TileServer/tile/**feelsLike**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Precipitation 1 Hour	https://api.weather.com/v3/TileServer/tile/**precip1hr**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Precipitation 24 Hour	https://api.weather.com/v3/TileServer/tile/**precip24hr**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Road Weather Index	https://api.weather.com/v3/TileServer/tile/**rwi**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Snow 1 Hour	https://api.weather.com/v3/TileServer/tile/**snow1hr**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Snow 24 Hour	https://api.weather.com/v3/TileServer/tile/**snow24hr**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Snow Coverage 1 Hour Contiguous US	https://api.weather.com/v3/TileServer/tile/**snowCoverageConus1hr**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Temperature	https://api.weather.com/v3/TileServer/tile/**temp**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Temperature Change	https://api.weather.com/v3/TileServer/tile/**tempChange**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**

Current Conditions Layer - Temperature Maximum	https://api.weather.com/v3/TileServer/tile/**maxTemp**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Temperature Minimum	https://api.weather.com/v3/TileServer/tile/**minTemp**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Ultraviolet (UV)	https://api.weather.com/v3/TileServer/tile/**uv**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Wind Speed	https://api.weather.com/v3/TileServer/tile/**windSpeed**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Wind Speed Gust	https://api.weather.com/v3/TileServer/tile/**windSpeedGust**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Conditions Layer - Wind Speed Non-Masked **(See Note below)**	https://api.weather.com/v3/TileServer/tile/**windSpeedNM**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Radar Layer - Radar (North American Composite)	https://api.weather.com/v3/TileServer/tile/**radar**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Radar Layer - Radar Australia (Attribution Required)	https://api.weather.com/v3/TileServer/tile/**radarAustralian**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Radar Layer - Radar Europe	https://api.weather.com/v3/TileServer/tile/**radarEurope**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Radar Layer - Radar Mosaic	https://api.weather.com/v3/TileServer/tile/**twcRadarMosaic**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Radar Layer - Radar Mosaic High-Coverage	https://api.weather.com/v3/TileServer/tile/**twcRadarHcMosaic**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite	https://api.weather.com/v3/TileServer/tile/**sat**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite - Thermal IR	https://api.weather.com/v3/TileServer/tile/**thermalSat**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite Europe - Longwave Infrared	https://api.weather.com/v3/TileServer/tile/**euIrSat**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite Europe - Visible Spectrum	https://api.weather.com/v3/TileServer/tile/**euVisSat**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite - Visible Spectrum	https://api.weather.com/v3/TileServer/tile/**satVis**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite Layer - Satellite U.S.	https://api.weather.com/v3/TileServer/tile/**ussat**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Current Satellite / Radar Layer - Satellite & Radar	https://api.weather.com/v3/TileServer/tile/**satrad**?ts=<ts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layers	
Forecast Layer - Clouds	https://api.weather.com/v3/TileServer/tile/**cloudsFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Dewpoint	https://api.weather.com/v3/TileServer/tile/**dewpointFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Feels Like	https://api.weather.com/v3/TileServer/tile/**feelsLikeFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Precipitation 1 Hour Cumulative	https://api.weather.com/v3/TileServer/tile/**precip1hrCumulativeFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Precipitation 24 Hour	https://api.weather.com/v3/TileServer/tile/**precip24hrFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Precipitation and Snow 1 Hour Cumulative	https://api.weather.com/v3/TileServer/tile/**precipAndSnow1hrCumulativeFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Snow 1 Hour Cumulative	https://api.weather.com/v3/TileServer/tile/**snow1hrCumulativeFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Snow 24 Hour	https://api.weather.com/v3/TileServer/tile/**snow24hrFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Temperature	https://api.weather.com/v3/TileServer/tile/**tempFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**

Forecast Layer - Temperature 24 Hour Maximum	https://api.weather.com/v3/TileServer/tile/**24hrMaxTempFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Temperature 24 Hour Minimum	https://api.weather.com/v3/TileServer/tile/**24hrMinTempFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Temperature Hourly	https://api.weather.com/v3/TileServer/tile/**tempHourlyFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Thunder 12 Hour	https://api.weather.com/v3/TileServer/tile/**thunder12hrFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Ultraviolet (UV)	https://api.weather.com/v3/TileServer/tile/**uvFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Ultraviolet (UV) 12 Hour	https://api.weather.com/v3/TileServer/tile/**uv12hrFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Wind Speed	https://api.weather.com/v3/TileServer/tile/**windSpeedFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Wind Speed 12 Hour	https://api.weather.com/v3/TileServer/tile/**windSpeed12hrFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Layer - Wind Speed Non-Masked **(See Note below)**	https://api.weather.com/v3/TileServer/tile/**windSpeedFcstNM**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Lifestyle Index Layer - Aches and Pains	https://api.weather.com/v3/TileServer/tile/**achesPainsFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Lifestyle Index Layer - Breathing	https://api.weather.com/v3/TileServer/tile/**breathingFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Lifestyle Index Layer - Grass Pollen	https://api.weather.com/v3/TileServer/tile/**grassPollenFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Lifestyle Index Layer - Ragweed Pollen	https://api.weather.com/v3/TileServer/tile/**ragweedPollenFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Lifestyle Index Layer - Tree Pollen	https://api.weather.com/v3/TileServer/tile/**treePollenFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Radar Layer - Radar	https://api.weather.com/v3/TileServer/tile/**radarFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**
Forecast Satellite / Radar Layer - Satellite & Radar	https://api.weather.com/v3/TileServer/tile/**satradFcst**?ts=<ts>&fts=<fts>&xyz=<X:Y:Z>&apiKey=**yourApiKey**

NOTE: Many products make use of a land/sea mask to exclude data over bodies of water. “Non-Masked” products omit this mask, so their resulting images **do** include data over bodies of water.

Retrieving Tiles:

Request a 256x256 image tile or UTFGrid for a given layer. The XYZ parameters must be integer coordinates describing the tile position according to the XYZ tiling scheme. Once the client has parsed the series list and determined what layer they wish to display, they then need to request the appropriate tiles for their base map viewport. If the viewport contains tile addresses outside of this window, no call is needed as the tile will be empty. Clients will use the data returned in the Inventory Series response as input into the layer tile request via a series of calls, providing the layer, timestamp, and the X:Y:Z tile address.

Data Elements & Definitions

Field Name	Description	Type	Sample
Inventory Series			

seriesInfo	The seriesInfo describes the available layers and the relevant information in the response to make the secondary call for the actual tiles and include:
	• layer name: e.g. “clouds”
	• native zoom level: e.g. “nativeZoom”:6,
	• max zoom level: e.g. “maxZoom”:11,
		object	{
			"seriesInfo": {
			"clouds": {},
			"windSpeed": {},

	• bounding box defining opposite corners of the available region • series is time slice data required for secondary call for layer imagery		"windSpeedFcst": {} } }
nativeZoom	The native zoom level is the default zoom level for the corresponding image.	integer	6
maxZoom	The max zoom level is the maximum zoom level available for the corresponding image.	integer	11

bb	The bounding box (bb) defines the top left tile (tl) and bottom right (br) tile of the bounding box using the geocode locations defined by latitude (lat) and longitude (lng) tile address scheme. The bb (bounding box for valid tile addresses, defined by opposing geocodes) & Equates to Layer Tile Input - Valid X:Y:Z addresses within the bounding box, defined by two geocodes.
	tl : Top Left Corner — lat: top left latitude, lng: top left longitude
	br: Bottom Right Corner — lat: bottom right latitude, lng: bottom right longitude
	Base Map tile address: e.g.
	• Google = XYZ scheme
	• Mapbox = XYZ scheme
	• Bing = Quadkey scheme
		decimal	"bb": {
			"tl": {
			"lat": "**-180.05**",
			"lng": "**90.05**"
			},
			"br": {
			"lat": "**180.05**",
			"lng": "**-90.05**"
			}
			},

tl	The response which defines the top left tile address defining the bounding box of the layer, tile addresses falling outside the bounding box will always be empty.	decimal	"lat": "**-180.05**", "lng": "**90.05**"
br	The response which defines the bottom right tile address defining the bounding box of the layer, tile addresses falling outside the bounding box will always be empty.	decimal	"lat": "**180.05**", "lng": "**-90.05**"
series	The series provides the relevant details required to pull the tiles associated with a layer, with the details contained in an array of values, associating each available time slice (ts) with a set of corresponding forecast time slices (fts).	epoch	{ "ts": **1437425100**, "fts": [**1437445800**] },
ts	The time slice (ts) is an Epoch formatted time stamp. The example (ts) equates to: GMT: Mon, 20 Jul 2015 20:30:00 GMT	epoch	**1437424200**
fts	Forecast Time Slice (fts) is an Epoch formatted time stamp. The example (fts) equates to: GMT: Tue, 21 Jul 2015 02:00:00 GMT	epoch	**1437444000**
Tile Layers			
ts	The time slice (ts) is an Epoch formatted time stamp. The example (ts) equates to: GMT: Mon, 20 Jul 2015 20:30:00 GMT	epoch	**1437424200**
fts	Forecast Time Slice (fts) is an Epoch formatted time stamp. The example (fts) equates to: GMT: Tue, 21 Jul 2015 02:00:00 GMT	epoch	**1437444000**
xyz	The xyz is the tile address scheme. Each tile is given an X and Y coordinate ranging from (0) in the upper left to (2^{zoom} -1, 2^{zoom} -1) in the lower right of a Mercator Projected map. • x ranges from 0 (left edge is 180°W) to 2^{zoom} -1 (right edge is 180°E) with TileX = floor(mapPixelX / 256) • y ranges from 0 (top edge is 85.0511°N) to 2^{zoom} -1 (bottom edge is 85.0511°S) with TileY = floor(mapPixelY/256) • z is the zoom level defined for the image	integer	**0:0:1**

JSON Sample - Product Series Info:

The Image Tile Server API will serve a series info in Json / Jsonp, which will describe the time slices which are currently available, the native zoom for the layer, the maximum zoom for the layer, and a bounding box confining the layer.

tempChange:
https://api0.weather.com/v3/TileServer/series/product/tempChange?apiKey=xxxxxxxx


```
{
    "nativeZoom": 5,
    "maxZoom": 13,
    "bb": {
        "tl": {
            "lat": "90.05",
            "lng": "-180.05"
        },
        "br": {
            "lat": "-90.05",
            "lng": "180.05"
        }
    },
    "series": [
        {
            "ts": 1575389100
        },
        {
            "ts": 1575388200
        },
        {
            "ts": 1575387300
        },
        {
            "ts": 1575386400
        },
```

```
        {
            "ts": 1575385500
        },
        {
            "ts": 1575384600
        },
        {
            "ts": 1575383700
        },
        {
            "ts": 1575382800
        }
    ]
}
```


JSON Sample - The Series List:

The Image Tile Server API will serve a series list, in Json / Jsonp, which will describe the layers that are available, the time slices which are currently available, the native zoom for the layer, the maximum zoom for the layer, and a bounding box confining the layer. The Series list will contain entries for each layer such as:

Current Conditions Layer: dewpoint	**Forecast Layer: cloudsFcst**

{
"seriesInfo": {
"dewpoint": {
"nativeZoom": 4,
"maxZoom": 13,
"bb": {
"tl": {
"lat": "-180.05",
"lng": "90.05"
},
	{
	"seriesInfo": {
	"cloudsFcst": {
	"nativeZoom": 5,
	"maxZoom": 13,
	"bb": {
	"tl": {
	"lat": "-180.0",
	"lng": "90.0"
	},
	"br": {

```
"br": {
"lat": "180.05",
"lng": "-90.05"
}
},
"series": [
{
"ts": 1458304200,
"fts": []
},
{}, (Additional Responses From the “clouds” series collapsed for presentation only)
]
},
"cloudsFcst": {}, (Layer & Series data collapsed for presentation only)
"dewpointFcst": {},
"feelsLike": {},
"feelsLikeFcst": {},
"precip24hr": {},
"precip24hrFcst": {},
"radar": {},
"radarAustralian": {},
"radarFcst": {},
"rwi": {},
"satradFcst": {},
"snow24hr": {},
"snow24hrFcst": {},
"temp": {},
"tempChange": {},
"tempFcst": {},
"uv": {},
"uvFcst": {},
"windSpeed": {},
"windSpeedFcst": {} (Additional layers omitted for presentation only)
}
}
```

```
"lat": "179.959936523",
"lng": "-90.00000762939453"
}
},
"series": [
{
"ts": 1458304200,
"fts": [
1458329400,1458328500,1458327600,1458326700,1458325800,1458324900,1458324000,14583231
00,1458322200,1458321300,1458320400,1458319500,1458318600,1458317700,1458316800,145831
5900,1458315000,1458314100,1458313200,1458312300,1458311400,1458310500,1458309600,1458
308700,1458307800,1458306900,1458306000,1458305100]
},
{
"ts": 1458303300,
"fts": [] (fts Series data collapsed for presentation only)
}
]
},
"dewpoint": {}, (Layer & Series data collapsed for presentation only)
"dewpointFcst": {},
"feelsLike": {},
"feelsLikeFcst": {},
"precip24hr": {},
"precip24hrFcst": {},
"radar": {},
"radarAustralian": {},
"radarFcst": {},
"rwi": {},
"satradFcst": {},
"snow24hr": {},
"snow24hrFcst": {},
"temp": {},
"tempChange": {},
"tempFcst": {},
"uv": {},
"uvFcst": {},
"windSpeed": {},
"windSpeedFcst": {} (Additional layers omitted for presentation only)
}
}
```


Address Tile Scheme

Converting between QuadKey and XYZ:

The subsequent tile layer requires a tile address in the XYZ scheme. The XYZ parameters must be integer coordinates describing the tile position according to the XYZ tiling scheme.
The tile address format is determined by the underlying base map that a client chooses to use. For example:

- Google uses XYZ scheme
- Mapbox uses XYZ scheme
- Bing uses the QuadKey scheme

The Bing Base Map tile address requires conversion from QuadKey to the XYZ scheme; see linked reference: - Bing Maps Reference - https://msdn.microsoft.com/en-us/library/bb259689.aspx.

Example code to convert the QuadKey tile address to XYZ scheme

```
object QuadKey {
  def getQuadKey(x:Int, y:Int, level:Int):String = {
    val quadKey = new StringBuilder()
    (level to 1 by -1).foreach( zoomLevel => {
      val mask = 1 << (zoomLevel-1)
      quadKey.append(appendValue( (x & mask) != 0, (y & mask) != 0) )
    })
    quadKey.toString()
  }
  def appendValue(xMask:Boolean, yMask:Boolean):Int = (xMask,yMask) match {
    case (true, true) => 3
    case (_, true)    => 2
    case (true, _)    => 1
    case _            => 0
  }

  def getXYZoom(quadKey:String):XYZ =
  {
    var x = 0
    var y = 0
    var zoom = quadKey.length

    (zoom to 1 by -1).foreach(i => {
      val mask = 1 << (i - 1)
      val cell = quadKey.charAt(zoom - i).toInt
      if ((cell & 1) != 0)
      {
        x = x + mask
      }
      if ((cell & 2) != 0)
```

```
    {
      y = y + mask
    }
  })
  XYZ(x, y, zoom)
}}
```

Base Map Implementation: Google

Using the Google API, a custom weather layer is done by extending the ImageMapType. The Google API will make a number of calls to the ImageMapType.getTile() when the layer is displayed. The getTile() function takes the tileCoord: Point, and a zoom: Int variable, which create the XYZ parameter needed in the Tile request url.

Weather Imagery Layers: Color Palette Legends

Please use SSDS Catalog for additional information on palettes.

Clouds, Radar, & Satellite

cloudsFcst : Forecast Layer - Clouds
satradFcst : Forecast Satellite / Radar Layer - Satellite & Radar **[base palette, overlayed by radar]**

Color	RGB	Value (% cloud cover)
	32,33,34	15%
	54,55,56	25%
	109,110,111	50%
	164,165,166	75%
	219,220,221	100%

radar : Current Radar Layer - Radar (North American Composite)
radarAustralian : Current Radar Layer - Radar Australia (Attribution Required)
radarEurope : Current Radar Layer - Radar Europe
radarFcst : Forecast Radar Layer - Radar
satrad : Current Satellite / Radar Layer - Satellite & Radar **[overlay palette, used over grayscale satellite]**
satradFcst : Forecast Satellite / Radar Layer - Satellite & Radar **[overlay palette, used over cloud cover]**
twcRadarHcMosaic : Current Radar Layer - Radar Mosaic High-Coverage
twcRadarMosaic : Current Radar Layer - Radar Mosaic

Color	RGB	Value (dBZ)	Approximate Value (Precip in / hr)
Rain			
	99, 235, 99	5	Trace
	99, 235, 99	10	Trace
	28, 158, 52	20	Trace
	0, 63, 0	34	0.10

	251, 235, 2	35	0.25
	238, 109, 2	40	
	210, 11, 6	45	1.25
	169, 5, 3	55	4.00
	128,0,0	65	16+
	255,255,255	70+	
Freeze			
	188, 165, 240	5	
	188, 165, 240	10	
	179, 155, 231	15	
	170, 146, 223	20	
	161, 137, 214	25	
	152, 127, 206	30	
	143, 118, 197	35	
	134, 109, 189	40	
	130, 104, 186	45	
	122, 96, 178	50	
	114, 87, 170	55	
	106, 78, 163	60	
	98, 70, 155	65	
	90, 61, 147	70	
	82, 53, 140	75+	

Mix			
	255, 160, 207	5	Trace
	217, 110, 163	30	0.10
	192, 77, 134	45	1.25
	174, 51, 112	55	4.00
	146, 13, 79	70+	
Snow			
	138, 248, 255	5	Trace
	138, 248, 255	10	0.10
	110, 203, 212	20	0.25
	82, 159, 170	30	1.25
	68, 137, 148	35	4.00
	40, 93, 106	45	8.00+
	13, 49, 64	55+	

euVisSat : Current Satellite Layer - Satellite Europe - Visible Spectrum
satVis : Current Satellite Layer - Visible Spectrum
sat : Current Satellite Layer - Satellite
satrad : Current Satellite / Radar Layer - Satellite & Radar **[base palette, overlayed by radar]**
ussat : Current Satellite Layer - Satellite U.S.

Color	RGB	Value (Height)
	138,138,138	Lowest
	166,166,166	
	194,194,194	
	222,222,222	
	250,250,250	Highest

euIrSat : Current Satellite Layer - Satellite Europe - Longwave Infrared

Color	RGB	Value (Height)
	89,89,89	Lowest
	127,127,127	
	152,152,152	
	175,175,175	
	210,210,210	
	175,145,193	
	157,117,177	
	139,89,161	
	116,55,133	
	183,119,22	

	170,96,21	Highest

thermalSat : Current Satellite Layer - Satellite - Thermal IR

Color	RGB	Value (Height)
	29,29,29	Lowest
	85,85,85	
	144,144,144	
	188,188,188	
	201,201,201	
	206,206,206	
	212,212,211	
	217,217,216	
	222,222,221	
	228,228,225	
	235,235,235	
	160,210,225	
	140,192,225	
	78,138,219	
	64,125,218	
	65,114,67	
	78,255,52	
	222,232,82	
	245,242,46	

	254,192,39	
	222,140,40	
	206,81,25	
	231,28,21	
	175,25,20	
	170,10,17	
	110,10,20	
	123,12,64	
	128,17,75	
	130,20,85	
	150,41,124	
	160,57,150	
	179,77,182	
	201,105,213	
	230,142,252	Highest

Dewpoint

dewpoint : Current Conditions Layer - Dewpoint
dewpointFcst : Forecast Layer - Dewpoint

Color	RGB	Value (Temp F)
	255,175,0	-40
	255,245,0	-20
	215,210,55	0

	175,190,85	20
	0,255,0	40
	0,175,0	60
	0,60,0	80+

Feels Like

feelsLike : Current Conditions Layer - Feels Like
feelsLikeFcst : Forecast Layer - Feels Like

Color	RGB	Value (Temp F)
	40,10,70	-70
	80,50,130	-50
	160,130,190	-30
	110,0,70	-10
	205,95,200	10
	90,120,185	30
	25,30,150	40
	115,105,100	50
	0,0,0	*51-79*
	220,40,0	80
	245,125,200	100
	240,20,110	120

Lifestyle Index

achesPainsFcst : Forecast Lifestyle Index Layer - Aches and Pains

Color	RGB	Value
	110,110,110	1 (minimal)
	214,196,103	3
	224,142,19	5
	233,76,0	7
	136,17,12	9 (very high)

breathingFcst : Forecast Lifestyle Index Layer - Breathing

Color	RGB	Value
	160,160,160	0
	232,40,8	1 (very poor)
	232,128,16	3
	232,200,24	5
	120,200,16	7
	48,128,32	9 (very good)

grassPollenFcst : Forecast Lifestyle Index Layer - Grass Pollen
ragweedPollenFcst : Forecast Lifestyle Index Layer - Ragweed Pollen
treePollenFcst : Forecast Lifestyle Index Layer - Tree Pollen

Color	RGB	Value
	49,209,39	1 (low)
	234,186,42	2
	238,113,32	3
	215,21,32	4 (very high)

Precipitation & Snow

precip1hr : Current Conditions Layer - Precipitation 1 Hour
precip24hr : Current Conditions Layer - Precipitation 24 Hour
precip24hrFcst : Forecast Layer - Precipitation 24 Hour

Color	RGB	Value (In)
	100, 255, 100	0.01
	71, 187, 71	0.05
	71,136,71	0.1
	0,117,0	0.25
	0,81,0	0.5
	255,255,100	1.0
	222,163,0	2.0
	214,68,30	4.0
	255,0,0	6.0
	157,0,0	8.0+

precip1hrCumulativeFcst : Forecast Layer - Precipitation 1 Hour Cumulative
precipAndSnow1hrCumulativeFcst : Forecast Layer - Precipitation and Snow 1 Hour Cumulative **[base palette, overlayed by snow]**

Color	RGB	Value (In)
	36,196,19	3
	31,149,18	25
	31,115,17	50
	255,198,15	75
	255,105,25	125
	255,13,7	200
	255,64,210	300
	255,179,255	450
	235,235,235	600

precipAndSnow1hrCumulativeFcst : Forecast Layer - Precipitation and Snow 1 Hour Cumulative **[overlay palette, used over cumulative precipitation]**
snow1hr : Current Conditions Layer - Snow 1 Hour
snow1hrCumulativeFcst : Forecast Layer - Snow 1 Hour Cumulative
snow24hr : Current Conditions Layer - Snow 24 Hour
snow24hrFcst : Forecast Layer - Snow 24 Hour

Color	RGB	Value (In)
	8,193,230	0.01
	8,155,186	1.2
	8,123,153	2.8
	161,145,255	4.7
	150,96,255	7.9
	104,42,186	11.8
	255,73,145	17.7
	235,165,226	23.6

snowCoverageConus1hr : Current Conditions Layer - Snow Coverage 1 Hour Contiguous US

Color	RGB	Value (In)
	8,193,230	1
	8,155,186	2
	8,123,153	3
	161,145,255	4
	150,96,255	5
	104,42,186	6
	255,73,145	7
	235,165,226	8

Road Weather Index

rwi : Current Conditions Layer - Road Weather Index

Color	RGB	Value
	255,253,183	Windy
	255,253,148	
	255,251,116	
	255,251,92	
	248,168 59	Foggy
	130,198,153	Wet
	130,198,153	
	123,197,145	
	116,197,137	
	109,196,129	
	102,196,122	
	95,195,114	
	88,195,107	
	81,194,99	
	74,194,92	
	67,193,84	
	60,193,77	
	52,192,69	
	43, 174, 249	Ponding

	41, 163, 249	
	39, 152, 249	
	37, 141, 249	
	35, 130, 249	
	33, 119, 249	
	31, 108, 249	
	29, 97, 249	
	27, 86, 249	
	25, 75, 248	
	23, 64, 248	
	20, 52, 247	
	205, 205, 205	Snowy
	200, 200, 200	
	196, 196, 196	
	191, 191, 191	
	187, 187, 187	
	182, 182, 182	
	178, 178, 178	
	173, 173, 173	
	169, 169, 169	
	164, 164, 164	
	160, 160, 160	
	155, 155, 155	

	251, 152, 181	Icy
	251, 146, 177	
	251, 140, 173	
	251, 134, 168	
	251, 128, 164	
	251, 122, 160	
	251, 115, 155	
	251, 108, 150	
	251, 102, 146	
	251, 95, 141	
	251, 89, 137	
	250, 82, 132	

Temperature

24hrMaxTempFcst : Forecast Layer - Temperature 24 Hour Maximum
24hrMinTempFcst : Forecast Layer - Temperature 24 Hour Minimum
maxTemp : Current Conditions Layer - Temperature Maximum
minTemp : Current Conditions Layer - Temperature Minimum
temp : Current Conditions Layer - Temperature
tempFcst : Forecast Layer - Temperature
tempHourlyFcst : Forecast Layer - Temperature Hourly

Color	RGB	Value (Temp F)
	40, 10, 70	-70
	80,50,130	-50
	160,130,190	-30
	110,0,70	-10
	160,50,140	0
	205,95,200	10
	170,225,250	20
	100,125,190	30
	20,20,150	40
	115,105,100	50
	215,215,50	60
	220,150,0	70
	220,40,0	80
	150,0,0	90
	245,125,200	100
	210,210,210	110
	240,240,175	130

tempChange : Current Conditions Layer - Temperature Change

Color	RGB	Value (Temp F)
	50,30,100	-55
	35,20,135	-45
	15,10,175	-35
	0,0,220	-25
	90,105,235	-15
	180,210,255	-5
	215,215,50	+5
	215,155,25	+15
	220,90,0	+25
	220,40,0	+35
	150,0,0	+45
	150,0,60	+55

Thunder

thunder12hrFcst : Forecast Layer - Thunder 12 Hour

Color	RGB	Value
	244,134,28	1, 2 (thunder possible, expected)
	181,9,15	3, 4 (severe thunderstorms possible, likely)
	255,255,255	5 (high risk of severe thunderstorms)

Ultraviolet

uv : Current Conditions Layer - Ultraviolet (UV)
uv12hrFcst : Forecast Layer - Ultraviolet (UV) 12 Hour
uvFcst : Forecast Layer - Ultraviolet (UV)

Color	RGB	Value (Index)
	90,85,80	1-2
	120,120,115	3
	150,150,150	4
	140,110,90	5
	190,175,80	6
	240,240,63	7
	220,135,20	8
	220,75,15	9
	220,15,15	10
	215,65,140	11

Wind Speed

windSpeed : Current Conditions Layer - Wind Speed
windSpeed12hrFcst : Forecast Layer - Wind Speed 12 Hour
windSpeedFcst : Forecast Layer - Wind Speed
windSpeedFcstNM : Forecast Layer - Wind Speed Non-Masked
windSpeedGust : Current Conditions Layer - Wind Speed Gust
windSpeedNM : Current Conditions Layer - Wind Speed Non-Masked

Color	RGB	Value (mph)
	70,210,255	10
	65,190,255	15
	25,120,255	20
	0,70,190	25
	0,50,170	30
	0,25,130	35
	0,0,90	40
	50,5,120	45
	100,15,150	50
	130,5,125	55
	165,0,100	60+

Document Revision History

Revision	Date	Notes
1.0	Dec 7, 2018	Initial versioned document; addition of Document Revision History In document header, addition of Usage Classification and addition of Attribution Requirements for Canada In table listing Current Conditions Layers, addition of "Satellite," "Satellite & Radar," and "U.S. Satellite" In table listing Forecast Layers, clarification with the "Radar" layer name changed to "Radar Forecast"
1.1	April 30, 2019	Adjust Snowfall 24 hr to match updated palette
1.2	July 3, 2019	Addition of 24 paletted image products, including new color palette legends Substantial restructuring of color palette legends
1.3	April 13, 2021	

Location Service - Point - v3.0

Domain Portfolio: Utility | Domain: Search | Usage Classification: Standard

Geography: Global **Attribution Required:** N/A **Attribution Requirements:** N/A

Overview

The Location Service APIs provide the ability to lookup a location name or geocode (latitude and longitude) to retrieve a set of locations matching the request.

The Location Point API provides detailed location data for a specific point on the globe, searchable by: Geocode (Latitude and Longitude), Postal Key (postal code:country code composite), IATA Code, ICAO Code, Place ID (encrypted location identifier), Canonical City ID (city level feature identifier), and Location ID (legacy location identifier).

The Location Point API is most commonly used for GPS based location searches where a pair of coordinates or known location codes are queried to identify its location features and other related metadata.

Note: Points over a body of water will generate a 404 error.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Translated Fields:

This TWC API handles the translation of phrases where translated values exist. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes). The following fields will be translated into the requested language where possible:

address, adminDistrict, city, country, displayName, displayContext, locale, neighborhood, disputedCountries

URL Construction

Search by Geocode: **Required Parameters:** geocode, language, format || **Optional Parameters:** locationType Returns information for a search via a latitude,longitude pair like “33.43,-84.22”.	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**geocode=33.74,-84.39**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by Postal Key: Required Parameters: postalKey, language, format || **Optional Parameters:** locationType Returns information for search via a Postal Key like “30339:US”. A Postal Key is a composite of <Postal Code>:<Country Code>.	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**postalKey=30339:US**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by IATA Code [location/point only] : Required Parameters: iataCode, language, format Returns information for search via an IATA code like “ATL”.	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**iataCode=ATL**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by ICAO Code [location/point only]: Required Parameters: icaoCode, language, format	**Aggregate Product Name**

Returns information for search via an ICAO code like “KATL”.	
https://api.weather.com/v3/location/point?**icaoCode=KATL**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by Place ID: Required Parameters: placeid, language, format Returns information for search via a Place ID like “ee0214ae7fb1d265f3e4d2509e77557119b2cac9d0ac1013b593c74a1567f2b7”	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**placeid=ee0214ae7fb1d265f3e4d2509e77557119b2cac9d0ac1013b593c74a1567f2b7**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by Canonical City ID: **Required Parameters:** locid, language, format Returns information for search via a Canonical City ID like “3e933388e3fb38c28c2d0806165bf7e3185d84bbb370417734798573ee243240”.	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**canonicalCityId=3e933388e3fb38c28c2d0806165bf7e3185d84bbb370417734798573ee243240**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point
Search by Location ID: **Required Parameters:** locid, language, format Returns information for search via a Location ID like “USWY0183:1:US”. This method of request is no longer actively supported.	**Aggregate Product Name**
https://api.weather.com/v3/location/point?**locid=USWY0183:1:US**&language=en-US&format=json&apiKey=**yourApiKey**	v3-location-point

Optional Query Parameters

Parameter Name	Description	Type	Range	Sample
locationType	Specify what type of location should be returned in the request. This determines the level of granularity expected in the response. Multiple location types may be requested as comma separated values in one request. Note: it is recommended to limit the types requested for best results See more details in the Location Types section.		city, locality, neighborhood, state, address, poi, pws, country, postal, locale (includes district, city, locality, postal, and neighborhood), locid (not actively supported)	city,locality,neighborhood

Location Types

Types	Description
country	Features that have been given a designated country code under ISO 3166-1.
state	Top-level sub-national administrative features. ‘region’ is a comparable type as ‘state’.
district	Features that are smaller than states/regions but larger than cities.
city	Features generally recognized as cities, villages, municipalities, etc. Typically locations used in postal addressing. Most commonly used for end-user location presentation.
locality	Official sub-city features used in postal addressing or commonly known to local residents.
neighborhood	Colloquial sub-city features which often lack official administrative status and lack agreed-upon boundaries.

locale	A location type sub-grouping combining district, city, locality, postal, and neighborhood features. This type has been made obsolete by the ability to request multiple location types via a comma separated list.
postal	Postal codes used in country-specific national addressing systems.
address	Individual residential or business addresses.
airport	Valid, active airports. Curated internally by The Weather Company.
pws	Valid, active Personal Weather Stations. Curated internally by The Weather Company.

Data Elements & Definitions - Location Service - Point

Field Name	Description	Type	Range	Sample	Nulls Allowed
location	Object for location data	object			
address	Locale level location detail.	string		Atlanta, Georgia, United States	Y
adminDistrict	The internationalized State, Region, District or Province identifier for 'state' or geopolitical area. - level 1 administrative division.	string	Any valid state, region, district or province name.	Georgia,	Y
adminDistrictCode	The identifier code for 'state' or geopolitical area. - level 1 administrative division.	string	US states only.	GA,	Y
airportName	The airport name associated to the (ICAO / IATA) airport code. Note: Only returned when the iataCode or iataCode query parameter is used in the request.	string	Any valid airport name.	Hartsfield-Jackson Intl,	Y
canonicalCityId	A city level place identifier. The canonical city id encompasses lower level place types. Note: This value should be used for SEO purposes only.	string	Any valid canonicalCityId	b9561b6ddb213b878ba672863570cf55d936ecb80cacd7fe8c45fe9379288343	Y
city	Full name of location City	string	Any valid city name.	Atlanta,	Y
countyId	Governmental assigned county identifier. Internal use only	string	Any valid County ID	FLC117,	Y
country	Full name of location Country	string	Any valid country name.	United States,	Y
countryCode	ISO Country Code	string	Any valid ISO country code.	US,	Y
displayName	The common display name for a location.	string	Any valid location display name.	Atlanta,	Y
displayContext	The recommended location context to include with the displayName. This is a recommendation from TWC and is subject to change.	[string]	Any free form string	GA, United States	Y
disputedArea	Point falls in an area with political sensitivity.	boolean	true, false	false,	Y
disputedCountries	List of countries claiming territory in the provided disputedArea. Note: Currently only available for disputedAreas with India, Israel, South Korea, Taiwan	[string]	Any valid country name.	["United States","Canada"]	Y

disputedCountryCodes	List of ISO country codes representing the disputedCountries.	[string]	Any valid ISO country code.	[“US”, “CA”]	Y
disputedCustomers	Customer identifier for custom logic pertaining to areas with political sensitivity.	[array]	Any valid internal code.	[[“ABC”],[]]	Y
disputedShowCountry	Customer designation for display of country names.	[boolean]	true, false	[true,false]	Y
dmaCd	DMA Code. Internal use only. A Designated Market Area (DMA) is a group of counties in the United States that are covered by a specific group of television stations. The term was coined by Nielsen Media Research, and they control the trademark on it. There are 210 DMAs in the United States.	string	Any valid DMA Code	534	Y
dstEnd	The date time which the location ends daylight savings time observation.	ISO	Any valid ISO date time.	2017-11-05T01:00:00-0500	Y
dstStart	The date time which the location starts daylight savings time observation.	ISO	Any valid ISO date time.	2017-03-12T03:00:00-0400	Y
ianaTimeZone	The standard IANA Time Zone for the location requested.	string	Any valid IANA time zone or UTC offset.	America/New_York,	Y
iataCode	The International Air Transport Association (IATA) airport codes of the requested location. Note: Only returned when the iataCode query parameter is used in the request.	string	Any valid IATA code.	ATL,	Y
icaoCode	The International Civil Aviation Organization (ICAO) airport codes of the requested location. Note: Only returned when the iacoCode query parameter is used in the request.	string	Any valid ICAO code.	KATL,	Y
latitude	Center latitude coordinate of the requested location.	decimal	Any valid latitude value.	33.63,	N
locId	Legacy TWC location identifier corresponding to a unique location record. This location type is provided to ensure compatibility with legacy queries.	string	Any valid locId	USWY0183:1:US	Y
locationCategory	A sub-type of the 'type' field that describes a more specific grouping for the location record. Currently returns a non-null response when "type"= "poi". In all other instances, this field will return 'null'.	string	Any valid locationCategory	national park	Y
longitude	Center longitude coordinate of the requested location.	decimal	Any valid longitude value.	-84.42,	N
neighborhood	The recognized Neighborhood name of the requested location.	string	Any valid neighborhood name.	Eagan Park,	Y
placeId	A unique place identifier	string	Unique Place Identifier	25d07eca1bcda02800c1a9e699d7eb1c8132cad9bc2d6efa8a2531f0ee4a81cd	N
pollenId	The pollen station identifier. Only valid in the United States.	string	Any valid pollenId	ATL	Y
postalCode	The Postal Code of the requested location.	string	Any valid postal code.	30337,	Y
postalKey	Postal Key is a composite location identifier key of <Postal Code>:<Country Code>	string	Any valid postal key value.	30337:US,	Y
pwsId	Personal Weather Station identifier	string	Any valid pwsId	KTXSANMA13,	Y
regionalSatellite	A TWC defined area that identifies a satellite region on the globe.	string	Any valid reginal satellite value.	se	Y
tideId	The tide station identifier. Only available for locations near coastlines	string	Any valid tideId	8729511	Y
type	Geospatial definition for the location record. (location type).	string	Any valid type	city, address,	N

				poi,neighborhood, state	
zoneId	Government assigned location identifier	string	Any valid zoneId	GAZ033,	Y
locale	Object for additional city & sub-city locale information.	object			
locale1	City or Sub-City locale information - depending on country. Broadest area local. (district)	string	Any valid city or sub-city locale		Y
locale2	City or Sub-City locale information - depending on country. 1 level more granular than 'locale1' (city)	string	Any valid city or sub-city locale		Y
locale3	City or Sub-City locale information - depending on country. 1 level more granular than 'locale2' (locality)	string	Any valid city or sub-city locale		Y
locale4	City or Sub-City locale information - depending on country. Smallest area local. (neighborhood)	string	Any valid city or sub-city locale		Y

JSON Sample - Location Service - Point


```
// Response Collapsed for Presentation Purposes
{
  "location": {
    "latitude": 29.162,
    "longitude": -81.525,
    "city": "Astor",
    "locale": {
      "locale1": "Lake County",
      "locale2": "Astor",
      "locale3": "Manhatten",
      "locale4": null
    },
    "neighborhood": null,
    "adminDistrict": "Florida",
    "adminDistrictCode": "FL",
    "postalCode": "32102",
    "postalKey": "32180:US",
    "country": "United States",
    "countryCode": "US",
    "ianaTimeZone": "America/New_York",
    "displayName": "Manhatten",
    "displayContext": "Astor, United States",
    "dstEnd": "2023-11-05T01:00:00-0500",
    "dstStart": "2024-03-10T03:00:00-0400",
    "dmaCd": "534",
    "placeId": "4911fe91dedcc116bd7ebc5258a098b6bc68bca2b81c326ca329d7965af519bf",
    "disputedArea": false,
    "disputedCountries": null,
    "disputedCountryCodes": null,
```

```
    "disputedCustomers": null,
    "disputedShowCountry": [
      false
    ],
    "canonicalCityId": "d76c26f1eef1099f8fa128c897644e4a158172913748c815d44f660548883aa5",
    "countyId": "FLC069",
    "locId": "USFL0018:1:US",
    "locationCategory": null,
    "pollenId": null,
    "pwsId": "KFLASTOR16",
    "regionalSatellite": "se",
    "tideId": "8720832",
    "type": "postal",
    "zoneId": "FLZ044"
  }
}
```

Lifestyle Indices - Ski Index - v2

Domain Portfolio: Forecast | Domain: Lifestyle - Indices | Usage Classification: Standard

Geography: Global **Attribution Required:** n/a **Attribution Requirements:** n/a

Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.

Overview

The Forecast Indices API is sourced from the TWC Forecast system. The Ski Index provides indices of ski conditions due to weather.

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

URL Construction

Atomic API URL Examples:	
Ski Index - Daypart API	
Request by Geocode (Latitude & Longitude): Required Parameters: geocode, language, format https://api.weather.com/v2/indices/ski/daypart/<duration>?**geocode=33.74,-84.39**&language=en-US&format=<json>&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/ski/daypart/3day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxSkiDaypart3
https://api.weather.com/v2/indices/ski/daypart/5day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxSkiDaypart5
https://api.weather.com/v2/indices/ski/daypart/7day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxSkiDaypart7
https://api.weather.com/v2/indices/ski/daypart/10day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxSkiDaypart10
https://api.weather.com/v2/indices/ski/daypart/15day?geocode=33.74,-84.39&language=en-US&format=json&apiKey=**yourApiKey**	v2idxSkiDaypart15
Request by Postal Code: Required Parameters: postalCode, countryCode, language, format https://api.weather.com/v2/indices/ski/daypart/<duration>?**postalCode=94608**&**countryCode=US**&format=<json>&language=en-US&**apiKey=yourApiKey**	**Aggregate Product Name**
https://api.weather.com/v2/indices/ski/daypart/3day?postalCode=94608&countryCode=US&format=json&language=en-US&apiKey=**yourApiKey**	v2idxSkiDaypart3

Data Elements & Definitions

API Name	Field Name	Description	Type	Range	Sample	Nulls	Usage

						Allowed	
Repeating Elements: Unique to Forecast							
	fcstValid	Time forecast is valid ... start of the forecast period, always 7am local time.	[epoch]		1369306800	N	Display As Provided
	fcstValidLocal	Time forecast is valid ... start of the forecast period, always 7am local time.	[ISO]		2013-05-23T07:00:00-0400	N	Display As Provided
Repeating Elements: Common Per Time Segment							
	num	Daypart Segment (12hour) - Sequential daypart number, where 1 = daytime of Day 0	[integer]		21	N	Display As Provided
	dayInd	Day / Night Indicator	[string]	D, N	D	N	Display As Provided
	daypartName	Name of 12hr daypart, not including day names in first 48hrs	[string]		Tomorrow	N	Display As Provided
Atomic Indices							
Ski Index	skiCategory	Descriptive text of Ski Index	[string]		Very Good	N	Display As Provided
	skiIndex	Index of ski conditions due to weather. 1=Very Poor, 2-3=Poor, 4-5=Fair, 6-7=Good, 8-9=Very Good, 10=Excellent	[integer]	1-10	9	N	Display As Provided

JSON Sample

JSON Sample - Daypart


```
{
"metadata": {},
"skiIndex12hour": {
"fcstValid": [],          {//JSON payload},
"fcstValidLocal": [],     {//JSON payload},
"dayInd": [],             {//JSON payload},
"num": [],                {//JSON payload},
"daypartName": [],        {//JSON payload},
"skiIndex": [],           {//JSON payload},
"skiCategory": []         {//JSON payload},
}
}
```